

FLORIDA WILDLIFE

MAY - JUNE 1980



Wallace
Hughes



USE EITHER
ROD AND REEL
OR CANEPOLE

LINE →

USE 10 OR 15
POUND TEST
MONOFILAMENT
WITH CANEPOLE
• LINE SHOULD
BE SAME
LENGTH AS POLE

PLASTIC
RED AND
WHITE •
EASY TO SEE

CORK



BOBBERS

ADJUST BOBBER ON
LINE ACCORDING TO DEPTH
OF WATER • READJUST
UNTIL FISH ARE LOCATED

SINKER

BB SHOT •
ADJUST 6 INCHES
ABOVE HOOK

SIMPLE KNOT
FOR TYING
LINE TO HOOK
• PULL TIGHT!

BAIT

USE
EARTHWORMS,
CATALPA WORMS,
BONNET WORMS,
CRICKETS
OR
MINNOWS

FOR FUN AND RELAXATION **GO FISHING**

PANFISH AND SMALL
BASS RIGS FOR
THE BEGINNER

HOOK SIZES

#12

#10

#8

FOR BREAM AND
SPECKLED PERCH

FOR
BASS

TO HELP MANAGE
AND CONSERVE
WILDLIFE AND
FIGHT POLLUTION-
BUY A FISHING
LICENSE

HOOK
MINNOWS BEHIND
DORSAL FIN OR
THROUGH LIPS

FISHING LICENSES

Resident:

Series A—Fishing \$ 6.50
Series AK—Fishing-Hunting Combination 17.50
Series AB—Fishing, valid 12 months after date of purchase. 7.50

Nonresident:

Series B—Annual 10.50
Series C—14-Day Continuous 7.50
Series D—5-Day Continuous 5.50

Licenses are issued from the offices of tax collectors and their subagents. General fishing regulations and annual licenses are in effect from July 1, 1980 through June 30, 1981, except that series AB is valid one year from date of purchase.

All Florida fishermen, except residents 65 years of age and over and children under 15, must possess a fishing license when freshwater fishing. No license shall be required of any resident when fishing in his county of residence with not more than three (3)

poles or lines, except in Florida Fish Management Areas.

No fishing license shall be required of military personnel who are Florida residents while they are home on leave for a period of 30 days or less.

GAME FISH BAG LIMIT

10 Black Bass

15 Chain Pickerel

50 Panfish: Bream, Perch and Red-finned Pike
individually or in aggregate

6 Sunshine Bass (no minimum length)

Total Possession Limit: two days bag limit after first day of fishing

6 Striped Bass (minimum length-15 inches)

Total Possession Limit: 6

Note—Special limits may apply in certain areas.

All other fish are considered nongame fish without daily bag or possession limits, except as noted in individual area regulations.

For further information, ask your nearest Game & Fish Commission office for FLORIDA FRESH WATER SPORTFISHING GUIDE.

FLORIDA WILDLIFE

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THE COVER

*Wood ducks in a cypress pond setting,
a familiar scene over a good part of Florida
From a painting by Wallace Hughes*

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despite the steady encroachment of civilization

BULLFROGS IN THE BAG

Chris Westmark waded a weedy drainage ditch filled with slimy water, discarded beer cans, pieces of Styrofoam and bullfrogs big enough to choke a hippopotamus. He carried a 10-foot bamboo gig. His headlamp illuminated the unappetizing water ahead. He saw no cottonmouth water moccasins like the poisonous snake that bit him in 1970 when he gipped a frog in a Pinellas Park ditch.

"I made a mistake that night," said Westmark, a 29-year-old electrician. "I pinned the frog to the bank with my gig and reached down to grab it, and that was the wrong thing to do. That's when I saw the snake. He wanted that bullfrog too. I pulled my hand back real quick but I wasn't quick enough. He got me on the wrist. My arm swole up real bad. I got me a scar where my friend cut me with a dull knife to suck out the poison."

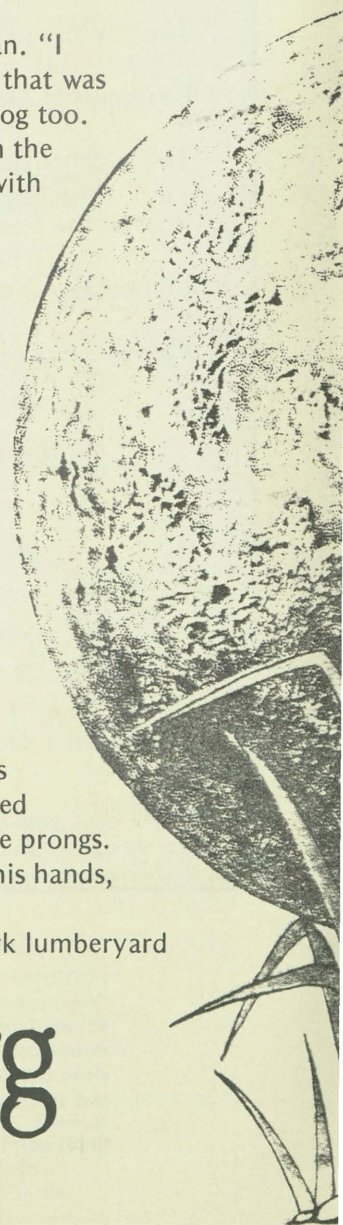
Wading through the ditch the other night, he saw no snakes. One bullfrog, 10 inches from snout to toe, was already dead in Westmark's white laundry bag. He considered it a mediocre specimen. One night last week he gipped five huge bullfrogs that yielded two and a half pounds of legs which he later fried in beer batter and butter. The full moon rose above the trees. Westmark wondered how moonlight would affect his frogging.

"One thing. It's going to make them more skittish. And those suckers are skittish enough in the summer. I don't know why. In the spring, they're dumb. You can get all you want; you can come right up on them. But in the summer, they won't let you get near them."

He had sneaked up on the first frog, which sat, watching for insects in shallow water. Crouching, Westmark had taken his gig and parted the tall weeds along the water's edge. The frog, seemingly paralyzed by the headlamp's beam, had not moved. Gripping the gig like a pool player holds a cue stick, Westmark had suddenly thrust. The gig and frog had disappeared in weedy foam. When he withdrew the gig, weeds and frog had stuck to the prongs. He had removed the frog, killed it immediately by breaking its back with his hands, and dropped it in the bag.

Several times a week Westmark comes to this ditch behind a Pinellas Park lumberyard

by jeff klinkenberg



this frogger still manages to put plenty of...

and other ditches like it, for frogs. Big bullfrogs. One of his ditches parallels a US 19 cemetery. Another parallels railroad tracks near General Electric off Bryan Dairy Road. He gigs a few frogs in a pond across the street from his home.

Although there are no bag limits or seasons or licenses required for the activity, seldom does Westmark see another frogger. Few people enjoy walking slimy, snake-infested ditches after dark.

That is fine with him.

"This is better than drinking in some bar," said Westmark, a self-sufficient man who, with wife Shirley, spends less than \$50 a month for food. "I eat a lot of frog legs, I eat a lot of wild hog, I eat a lot of fish, and I eat a lot at people's houses." He grows his own vegetables and hunts and fishes and frogs when he has the opportunity.

"But it's really getting hard to be an outdoorsman," said the man who has 12 hunting dogs in the back yard of his north Pinellas home. "When you find a good place, it's posted—no trespassing—or it's about to be posted. Civilization is catching up with us."

The ditch in which Westmark waded the other night, near the lumberyard, paralleled a residential neighborhood. Pickup trucks were parked along the ditch. "Sometimes, people will yell at me," Westmark said, "They want to know what I'm doing there next

to their trucks. When I tell 'em, I don't think they believe me."

Near a deadend street, where a street lamp shone into the ditch,

Westmark looked carefully. Street lamps are good places for

frogs. They attract insects, which attract frogs. The mud

sucked at his boots with every step. Gas bubbles belched

to the water's surface. Mosquitoes swarmed around him

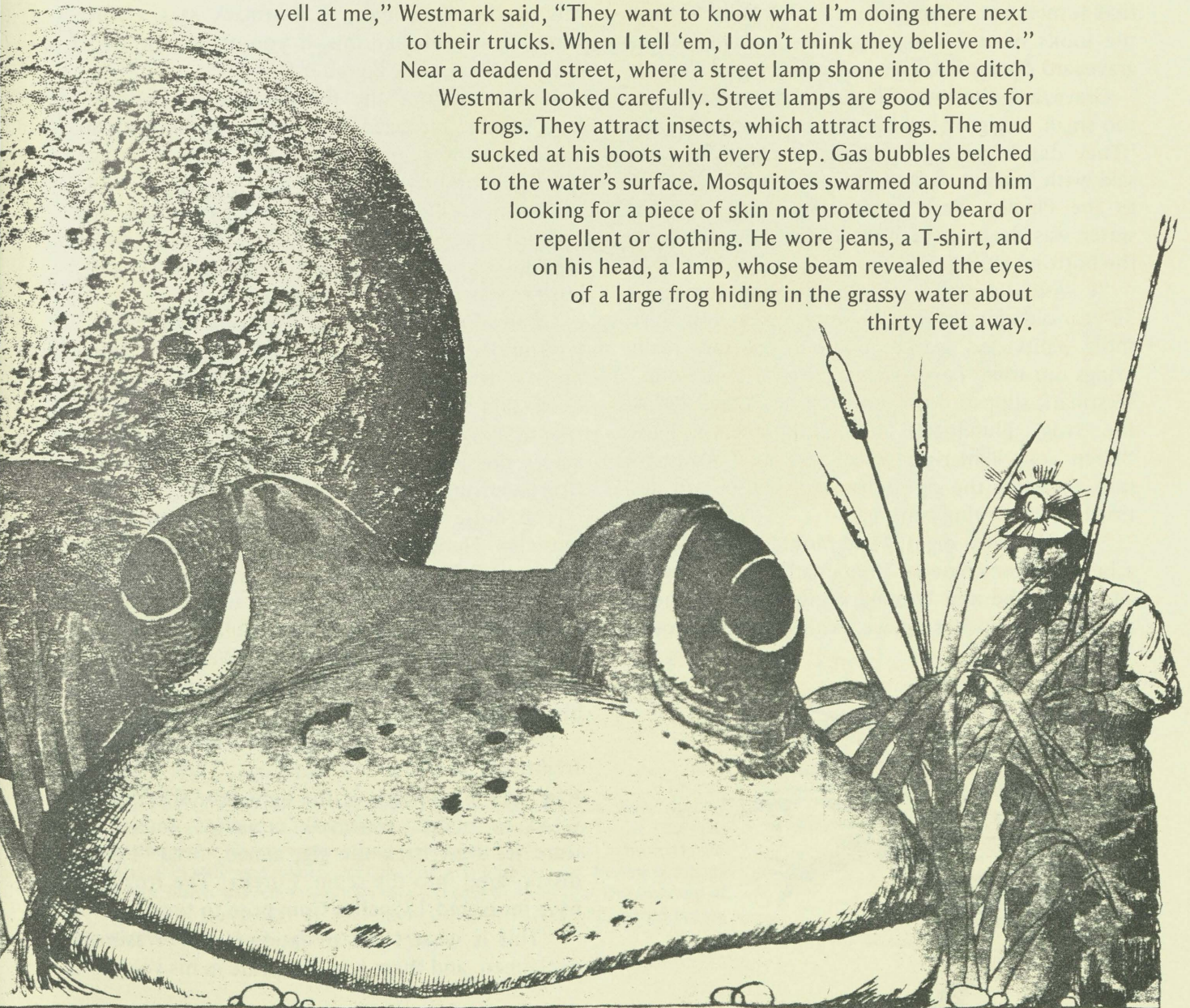
looking for a piece of skin not protected by beard or

repellent or clothing. He wore jeans, a T-shirt, and

on his head, a lamp, whose beam revealed the eyes

of a large frog hiding in the grassy water about

thirty feet away.



BULLFROGS IN THE BAG

"That's what I call an eating frog," he hissed. He moved slowly and deliberately through the muck. Before he got within gigging distance, the frog vanished below the water's surface. "That's what I mean," he moaned, "Those suckers are so skittish, God---!"

Looking ahead, Westmark made out two beams of light about a quarter mile down the ditch. His friends, Jimmy Montgomery and Danny Barrie, also wading for frogs, worked toward him. Westmark wondered about their luck: "They're working a better part of the ditch. No so many bushes." Westmark gigged two more frogs before he met his friends, who had gigged only one frog. They walked back to the four-wheel drive vehicle, grabbed beer from the ice chest, and swapped experiences. Montgomery had seen one giant frog that turned out to be a beer can. "A Miller's, from the looks of it." Laughing, they headed for the graveyard ditch off US 19 in Pinellas Park.

Graveyard ditch was filled with frogs. Most were too small to gig or too big and smart to be gigged. "They didn't get big by being dumb," Westmark said with respect. Graveyard ditch wasn't as foul as the Pinellas Park lumberyard ditch. But the water was deeper, the hydrilla weeds thicker, and the bottom, muddier.

"I wish it'd rain," said Jimmy Montgomery, a 32-year-old electrician who wore a sleeveless shirt, short pants and leather boots. "The rain really brings out them frogs. Damn. There's a nice one." Westmark slipped down into the ditch and stalked the frog, illuminated by Montgomery's light. "Keep your light right where you are," Westmark said, thrusting the gig. Bullseye! Another pair destined for the frying pan!

"This is a slow night," said Montgomery, sipping a beer. He remembered the Great Night two years ago, when he and Westmark gigged 60 bullfrogs, averaging 15 inches apiece, while walking around

St. Petersburg's Crescent Lake. "We haven't gotten a frog from there since," Montgomery said. Westmark remembered his best frog, gigged on his first trip as a child. "It was damn near 20 inches." Danny Barrie, a 27-year-old aluminum plant manager, had no such memories. His frogging debut, he was handed the gig and told to hit the ditch. Water and weeds closed around his hip boots.

"See that frog, Danny?"

"Uh uh."

"Can't hear you, Danny."

"NO!"

Then he saw it, a good bullfrog, hiding behind the hyacinths, and he gigged it, his first, and was congratulated with a beer.

But frogging was generally slow. So slow that Westmark removed from the truck his secret weapon: half a flyrod to which a short line and a tiny artificial trout fly lure were attached. "I swear this works sometimes," Westmark said. "When frogs are skittish like this, if you dangle the fly in front of them, they'll grab it."

Within minutes the fly was dangled before a frog, which managed to contain its enthusiasm. No sucker, it slipped below the water's surface. "Well, it worked last time!"

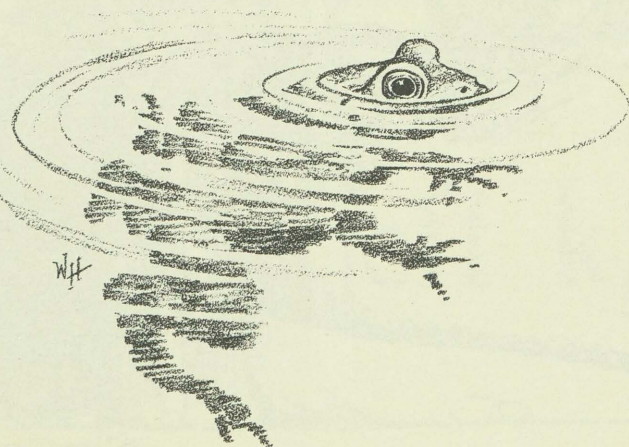
The next ditch, near Bryan Dairy Road, was without frogs. At midnight, the froggers, dreading the alarm clock in the morning, reluctantly left for Westmark's home.

"Wait a minute. I want to try one more place," Westmark said, getting out of the truck at his house. "It's right across the street here. Old Man Cecil said I could frog his pond." Leaving his friends drinking beer near the carport, he slipped across the street, through some bushes and found frog paradise.

The noise was loud enough to frighten a rock musician. Hundreds of small tree frogs, clinging to every available twig, leaf and log performed in concert. Then the tree frog noise was drowned out by incredible booming croaks. Bullfrogs. Flashing his light on the scummy pond, Westmark saw a dozen big league bullfrogs that fed on tree frogs, bluegill, and crawfish.

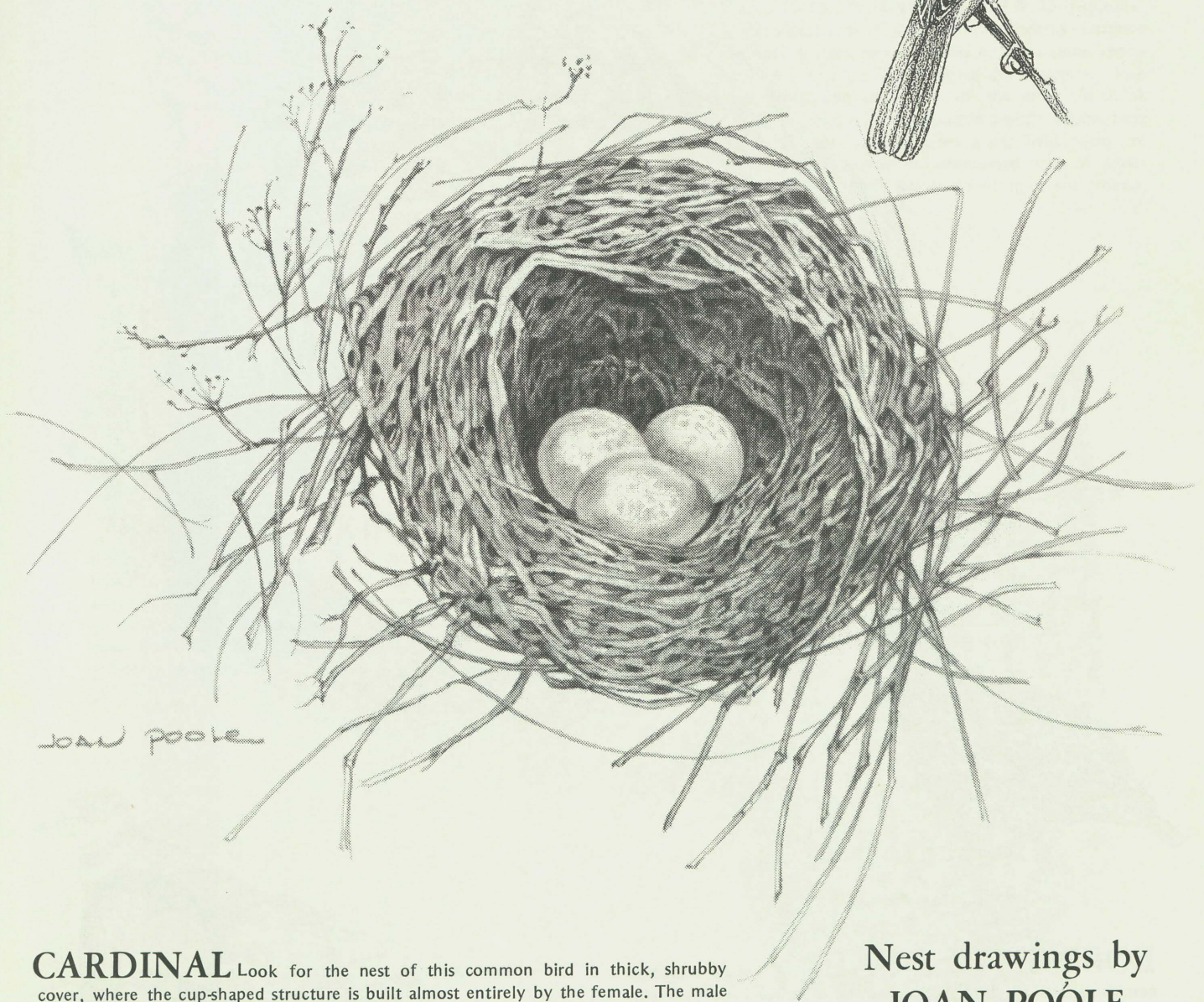
His footsteps, crunching on shoreline leaves, frightened the first few bullfrogs. Then a fearless frog was illuminated in the light near shore. It refused to budge. Westmark crouched, inched toward it, drew back the gig, aimed, fired. The gig disappeared into the scum. Eureka! The frog must have measured 15 inches from nose to toes.

"This is what I call an eating frog," Westmark exclaimed, and there was real pride in his voice! □



BIRD NESTS

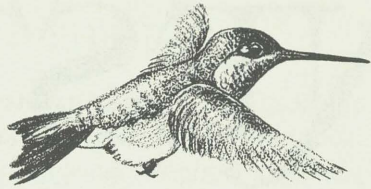
Nesting season brings to fore a problem shared by all species of birds—the protection of the eggs and helpless hatchlings. How various species respond to the twin threats of predators and weather is reflected in the choice of locations and variations in techniques used to put together these avian nurseries. Some examples are detailed here.



CARDINAL Look for the nest of this common bird in thick, shrubby cover, where the cup-shaped structure is built almost entirely by the female. The male may accompany her during construction, but it is the lady cardinal who shapes the small twigs, grass stems and rootlets and lines it all with finer material. Nesting in Florida begins in late March and active nests have been recorded well into July. One-inch eggs of pale bluish white soon occupy the nest. Many are lightly flecked with reddish brown, while others are more heavily splashed with color.

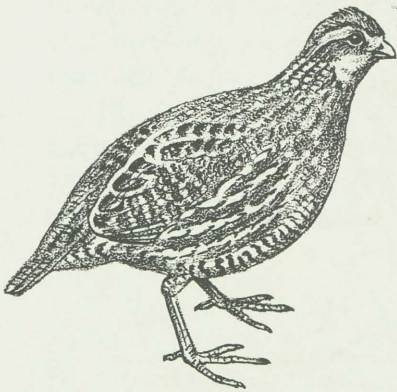
Nest drawings by
JOAN POOLE

Text by Morrie Nagliar
Birds by Wallace Hughes



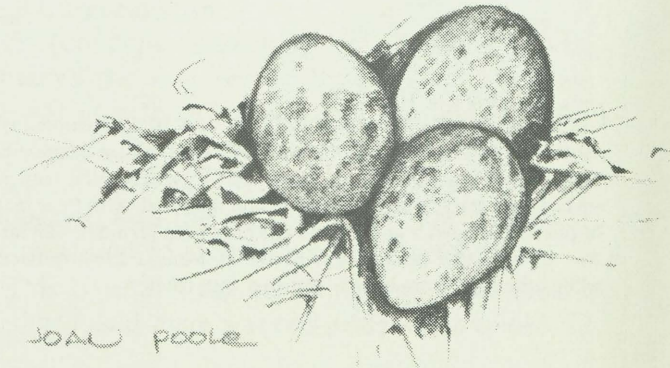
RUBY-THROATED HUMMINGBIRD

A tiny cup of plant material bound together with spider web, lined with plant down and covered on the outside with bits of lichen. Most often, the nest is attached to a slender, downward sloping branch. A site near or over water is common. Two half-inch long white eggs are the usual clutch.

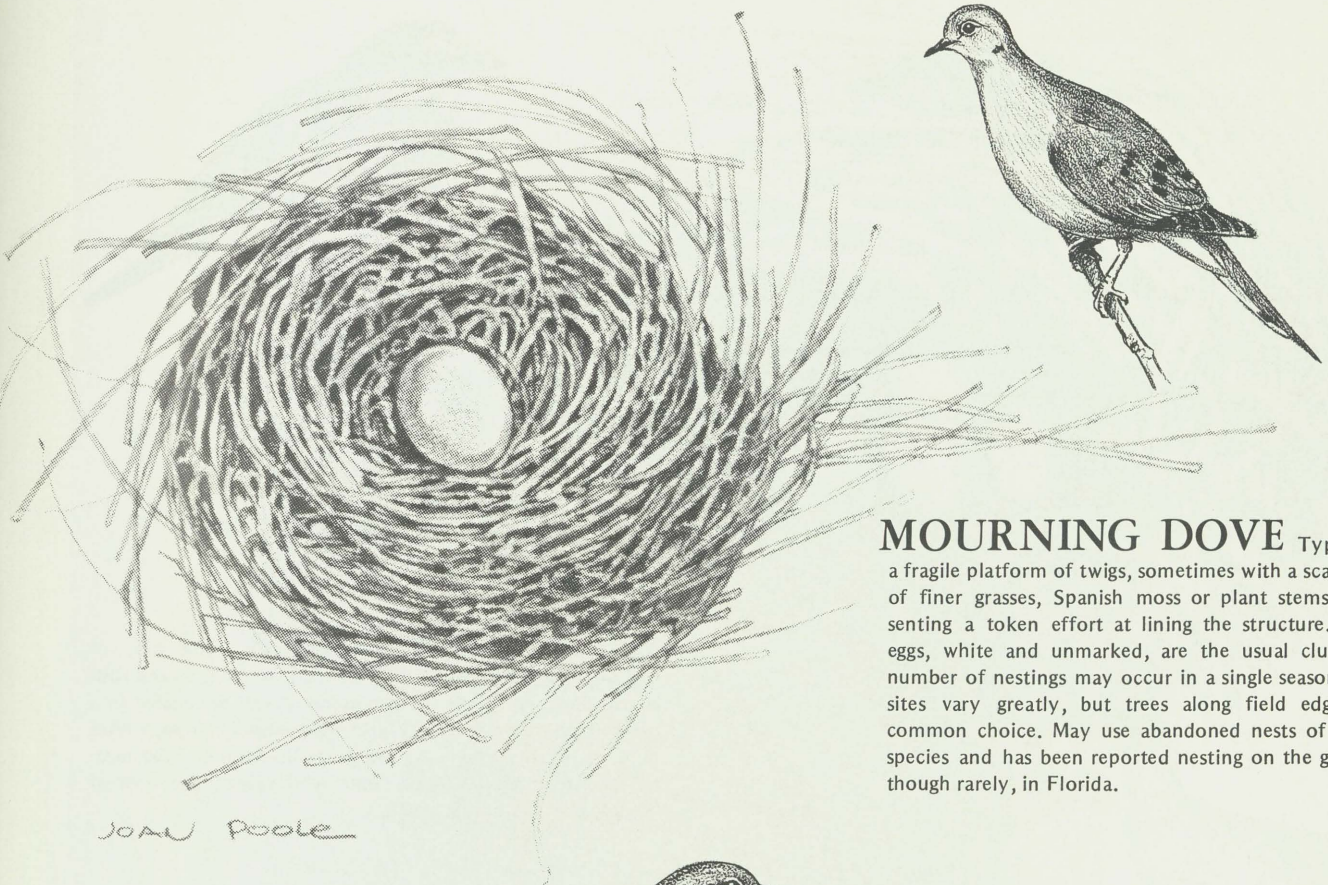


BOBWHITE QUAIL

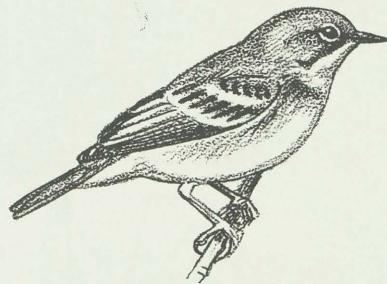
A typical bobwhite nest consists of a hollow scooped out on the ground and lined with grass and other bits of vegetative material from the vicinity. A canopy of some sort is essential. It may be thick scrubby branches of a bush or palmetto clump, or long grass bent over or interwoven to form a roof. The number of eggs in a clutch varies considerably, but 14 to 16 seems to be about the usual number. Eggs are white and unspotted.



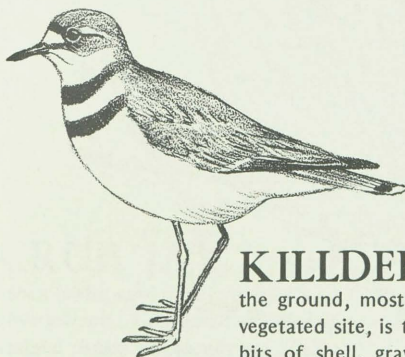
JOAN POOLE



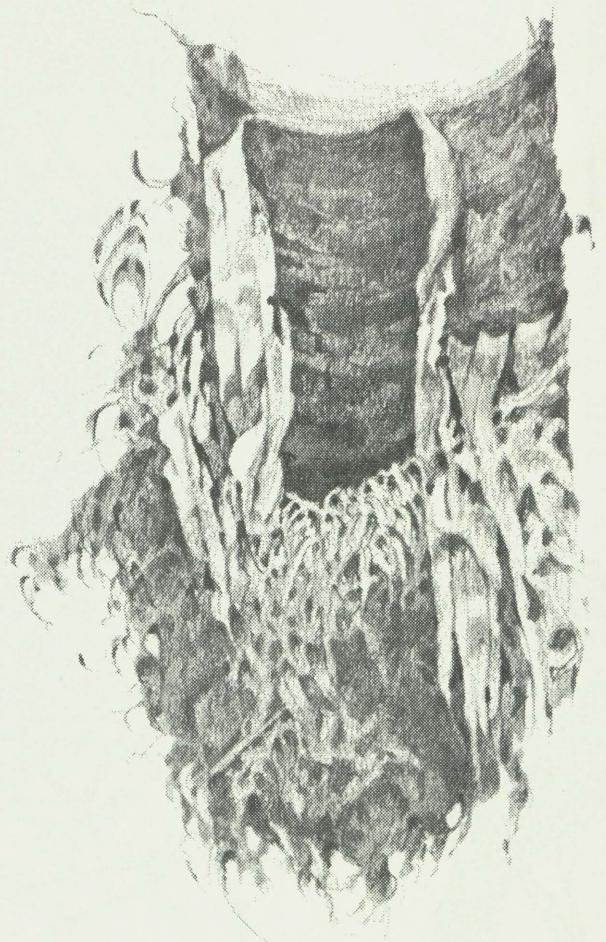
MOURNING DOVE Typically a fragile platform of twigs, sometimes with a scattering of finer grasses, Spanish moss or plant stems representing a token effort at lining the structure. Two eggs, white and unmarked, are the usual clutch. A number of nestings may occur in a single season. Nest sites vary greatly, but trees along field edges are common choice. May use abandoned nests of other species and has been reported nesting on the ground, though rarely, in Florida.

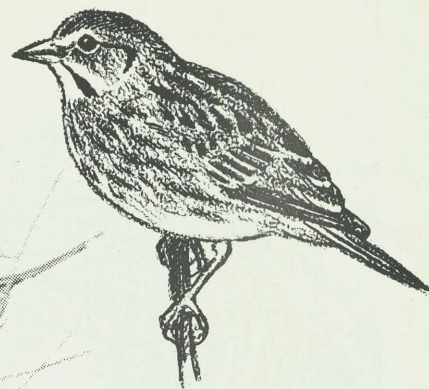
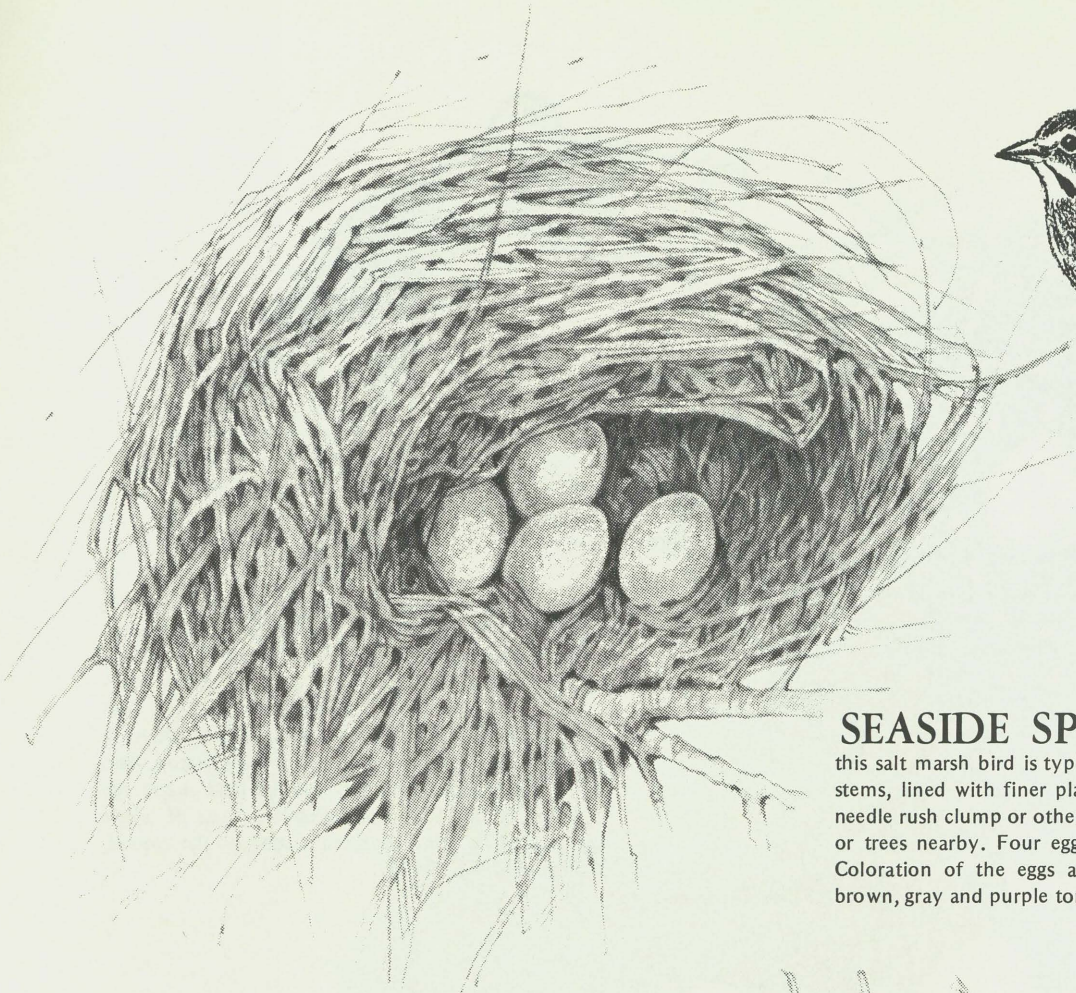


PARULA WARBLER Unless activities of nesting birds call attention to it, the Parula warbler keeps the location of its nest secret. A pendant-shaped affair, the nest is usually formed in a clump of Spanish moss which makes up the bulk of the building materials. A sparse lining of fine grass stems, plant down and other plant material cushion the four to five white eggs, spotted with reddish brown.

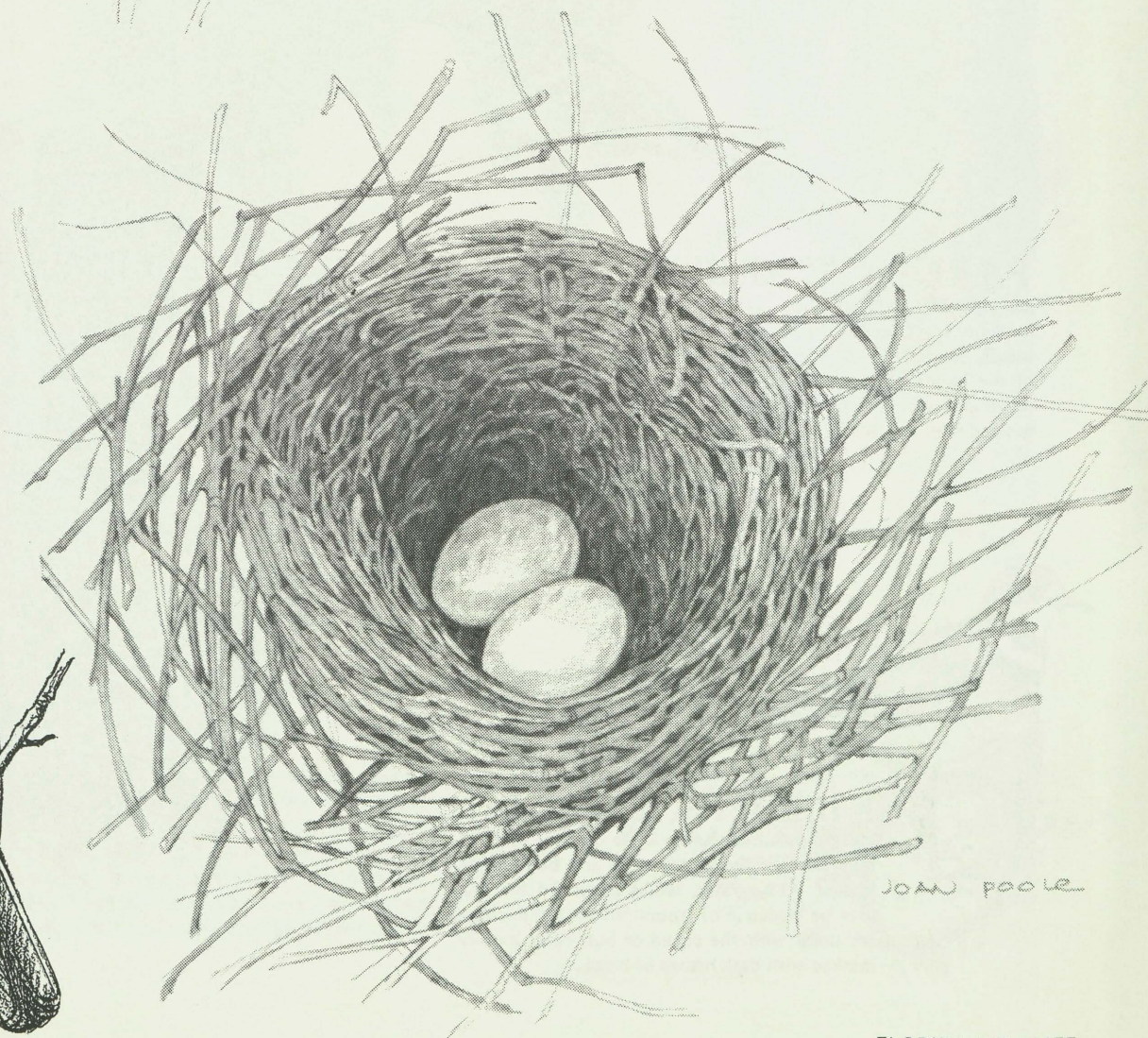


KILLDEER A slight depression in the ground, most often in an open or sparsely vegetated site, is the choice of this bird. A few bits of shell, gravel, wood chips and the like may be placed in or around the nest. Four eggs are usual with the cream or buff color heavily marked with dark brown or black.

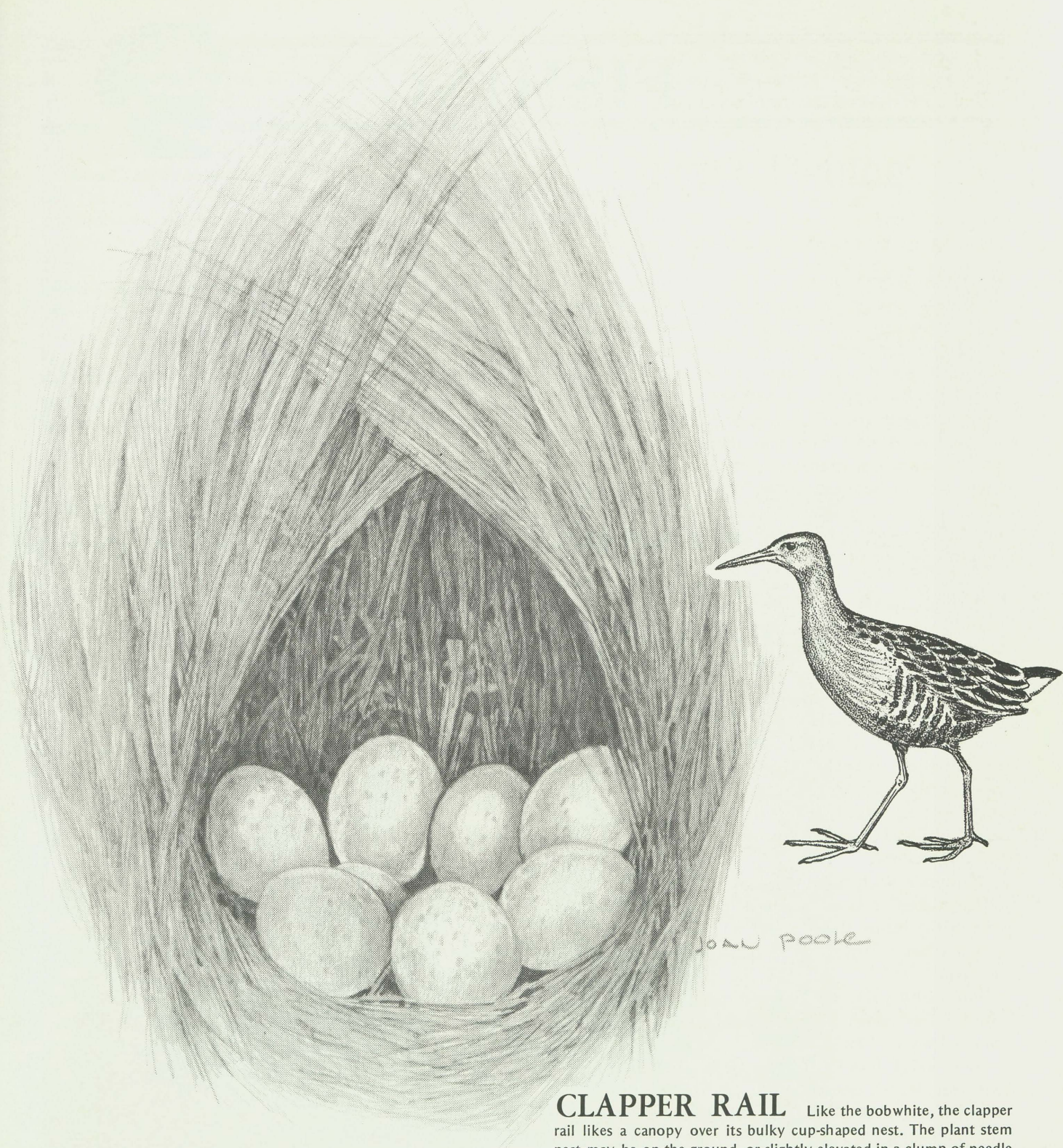




SEASIDE SPARROW The nest of this salt marsh bird is typically an open cup of grass and rush stems, lined with finer plant material. It can be located in a needle rush clump or other marsh vegetation including bushes or trees nearby. Four eggs are generally found in the nest. Coloration of the eggs are white with varying amounts of brown, gray and purple tones.



JOAN POOLE

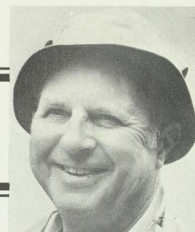


CLAPPER RAIL Like the bobwhite, the clapper rail likes a canopy over its bulky cup-shaped nest. The plant stem nest may be on the ground, or slightly elevated in a clump of needle rush. A bush or tide-tossed debris often serves as its canopy. Lacking this, taller vegetation may be bent or interwoven to form a roof over nine to 12 eggs. Light ground color, the eggs are splashed with brown spots.

SCRUB JAY Nests are located in shrubby trees or bushes (oaks, sand pine and myrtle are favored), usually 2 to 12 feet above ground. Composed of oak twigs with an inner lining of fine rootlets. Eggs, which number three to five, have a greenish ground color, blotched and spotted with irregular markings of reddish brown.



FISHING



By CHARLES WATERMAN

There's a place for everything, including ultra-light fishing gear.

We no longer choke up over mention of "ultra-light" tackle. Since mere mortals have landed sailfish on 6-pound line, since some careful spin-fishermen for bass and panfish specialize in 2-pound line and since a few fastidious trout anglers use 1-pound tippets, fishermen no longer quote their line tests quite like they do their golf scores.

I've always said there was more to finding a fish and making him grab something with a hook than there was to hanging on to him until he got tired. Of all the fishing skills, learning to play a catch is one of the simplest—providing you can find some fish to practice on.

For a time the bass tournament boys scoffed at ultra-light tackle (*I play 'em after I get 'em in the boat—har, har, har!*) but then it developed that there were times when to win a tournament you needed skinny line and little lures. At times, extremely light tackle is simply the best way to catch fish. It's generally more pleasant to use too.

Spinning, which started out as the common man's introduction to truly light tackle, tended to be unnecessarily "heavy" as time went on. Since the line itself is fairly light, many fishermen felt they were real light tackle operators, even though their reels were monsters.

If there's such a thing as an "average" spinning outfit, I'd say it is a "medium" reel and a 7-foot rod, weighing more than a pound. That's more than twice what a fairly light outfit (much less popular) weighs.

For many years we've been using small reels and little 5-foot glass rods for panfishing, simply because they're better with the small lures, some of which weigh less than a sixteenth of an ounce. You can simply fish better with them. Generally we used 4-pound line. Of course we caught lots of bass with them although that's no choice for turning a fish out of the weeds or away from a stump.

In open water, 4-pound line will handle some pretty big fish. In casting for St. Johns River shad, we always used "medium" spinning rods until a few years ago when my wife announced she saw no reason for those big outfits when a hooked shad simply does his thing in open water and never hunts a hole. The next time we fished from one of the PuzzleLake sod banks (near Sanford) I noted she had a miniature reel and one of the little 5-foot pan-fishing rods with 4-pound mono. She's used nothing else since then, and although it takes a little

extra time to beach one of the bigger shad, I can't recall any breaking off except under freak circumstances.

I don't recommend those little rigs for trolling, of course, and they definitely have an upper limit for lure weight, not working too well with anything over a quarter ounce. Ultra-light isn't very good for popping surface baits although it goes fine when the floater doesn't have to be worked violently. It's all right for bait fishing.

I've always been able to cast more accurately—and more comfortably—with baitcasting gear than with any kind of spinning outfit. Most fishermen think in terms of something fairly heavy when they cast with plugging rods and the dividing line between plugging and spinning in fresh water has generally been about $\frac{3}{8}$ ounce.

Now that everybody is using freespooling reels there is no reason why a light plugging rod won't handle things a little lighter than a quarter-ounce. This is the province of the spincast (closed face) reel and if you want a light rod to go with your turning-spool plugging rod and something like 6-pound line, you'll find it quicker if you ask for a "spincast" rod. Not to say that there aren't extremely light rods made with turning spools in mind, but they aren't plentiful. The spincast rod does the job pretty well.

Several manufacturers are getting into the act with some really small plugging reels, and that's just a recent move. For some years now there have been "bantam" spincast outfits and the undersized spinning outfits have been available for some time. I'd rather not go to less than 6-pound line with a turning reel.

If you've never gone for 4-pound spinning line or lighter, welcome to the club. There are only two new things to learn for an experienced fisherman. First, the matter of drag adjustment becomes critical rather than just a happenstance thing. Second, you have to keep a watchful eye on the line's condition. A little deterioration or abuse that might never give you trouble with 8-pound line will leave you making acid remarks when 4-pound line breaks. They used to call it "threadline." Don't hear that term much any more.

Fish Records

Since the International Game Fish Association took over the record keeping for freshwater fishing

there have been mighty changes from the setup handled by Field & Stream for all those many years. It appears that the IGFA has taken on a job of work but it should spice things up for fishermen interested in getting their names in the record books.

The big difference is that the new records are to be handled by line-test classes, as they have been for saltwater fishing in the past. Line tests complicate the thing tremendously. Even in fly fishing (formerly something of an orphan in the record business) there has been a series of divisions based on leader test.

So who cares about freshwater records? Maybe a lot of people. I suspect the general public is more interested in the biggest fish of a species, regardless of what tackle was used, but the competitor will go for the various line classes.

The traveling fisherman can get some good tips from the geography of contest wins. Anybody who wants a trophy of any kind will do well to go where they've been caught in the past.

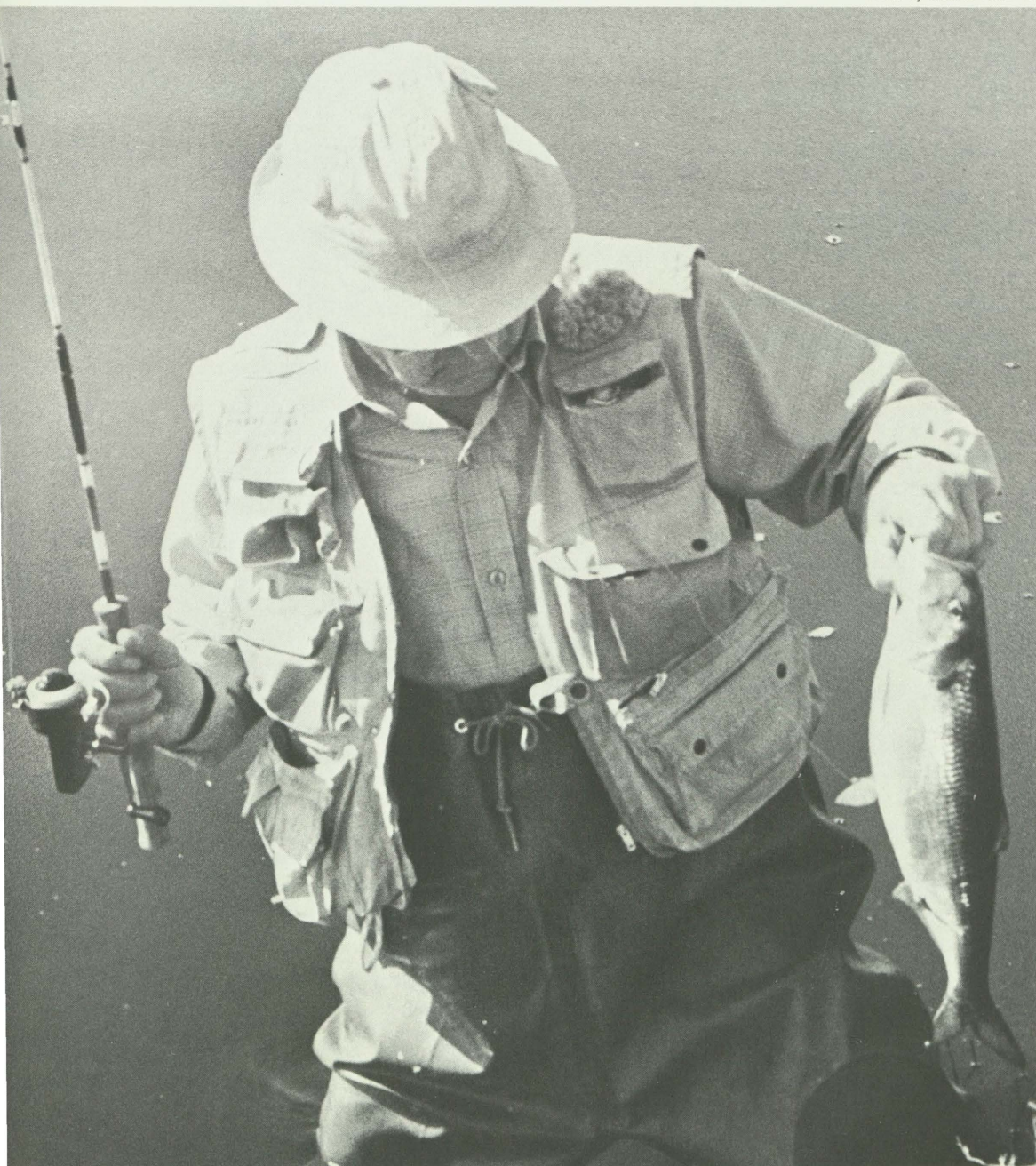
Sight Fishing

Fellow wrote a full-length article about hunting Florida bass by watching the action of grackles along the lily pads and bullrushes. A spooked grackle complaining of something beneath his perch can be worried about a hungry bass. Of course he might be equally worried about an alligator, snapping turtle or garfish, but when something is moving around down there, it's worth throwing a lure at.

Not that bass make a steady diet of birds, even

Photo by Charles Waterman

*Nice-sized
shad taken
with ultra-light
spinning tackle
from the St.
Johns River
near Sanford.*



though they certainly gulp one now and then. Bird catching is not too easy for a fish, despite the numerous paintings depicting a spooked bird about to be engulfed by a largemouth's choppers a foot in the air.

But there have been many times when I've found sight fishing profitable in shallow water, and occasionally in water not so shallow. Last summer I had spent a fruitless evening combing a backwater of the St. Johns with popping bugs when I saw some bonnets move some distance away. You could list a page of things that might move a patch of bonnets but times were tough so I tooled over there with the little electric motor and flapped a popper into a pocket near the wiggle. Then there was no doubt something was going to happen because I could see the pads shake for 6 feet as the bass came for the bug, which he ate without hesitation. Good fish.

Many other times I have caught fish by casting to shoreline movement. Many other times nothing happened but you might as well throw to where something's alive.

Bass Temperatures

And on black bass temperatures. Generally, the bass adapts to local weather extremes. I have heard central Florida guides state that fishing was useless when the water was below 50 degrees. It sure isn't likely to be good but I have seen a few bass hit and fight hard when the mercury was around 45 degrees. And when one BASS tournament came accompanied by a snowstorm and the water got down

in the deep thirties, there were quite a number of fish caught. Of course the experts hunted the warm spots but it sure wasn't simmering anywhere.

Favorite Fish

We sophisticated anglers aren't supposed to take an interest in bluegills but I can't help it if they're among my favorite fish, especially the healthy Florida models that eat popping bugs, a variety of nymphs and little spinnerbaits. I have some inside dope from a biologist, and don't tell me everybody knows what I'm going to reveal because I asked a dozen old fishermen before I got to the expert.

Those big rusty-headed ones are males. The females are lighter in color, generally with more typical bluegill markings. The "copperhead" is the man of the house and gets as big as the females as I get it.

But something else comes along that bothers me and shook the biologist a little too. Through the years I've found that when the weather is cold we tend to catch the females much more than the males. There are other times, especially during a spawning peak, when nearly all of the catch is made up of copperheads.

A guess would be that the females are out foraging more when the water is cold. I've caught them in Florida with the water temperature well down into the forties. That, of course, is no news to northern fishermen who often catch them through the ice, but Florida fish are noted for turning off when the cold winds blow. □

BLUEGILL BREAM
Fisherman's Favorite

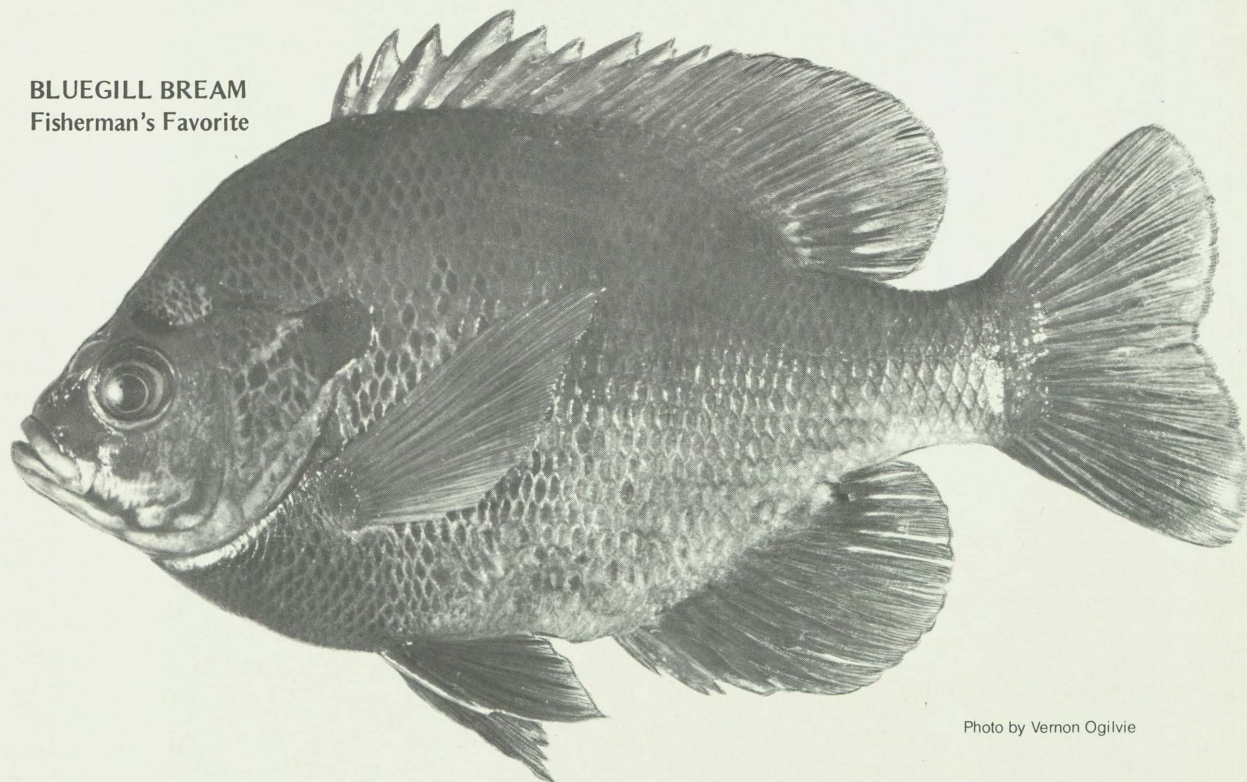


Photo by Vernon Ogilvie

Enjoy Thoreau's "tonic of wildness" at timeless

TOSOHATCHEE

By Mike Smith



Photo by Mike Smith

If you sometimes long for the "good old days" when peninsular Florida was rich in forests that abounded in wildlife, in marshes that hosted thousands upon thousands of ducks, then head for the Tosohatchee State Preserve.

Tosohatchee is a 28,380-acre tract of wildness, lying northwest of Cocoa in Orange County. Once around 1925, this area was an exclusive hunting preserve. Now it belongs to the State of Florida and is open, although in a somewhat limited sense, to the public. Administration of the area is the responsibility of the Department of Natural Resources. What does Tosohatchee offer? I think it is what Thoreau called "the tonic of wildness."

Let me give you a hint of what this tonic may be:

A motorcade of Indian River Audubon Society members penetrates the Tosohatchee preserve. Although access is easy, with permission, the feeling of wildness is there—just a few steps back from the road.

On a bright Sunday morning in January, I stood, with a few other members of the Indian River Audubon Society, on the bank of a lake deep in the Preserve. We looked down on blue water and acres of yellow-brown grass. There were no manmade sounds, only the cry of red-shouldered hawk—*keer, keer*—floating on still air. On the far horizon to the east, we saw a bright blue line, the St. Johns River drawing water from the Preserve's creeks and marshes, and moving slowly northward.

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Gradually, we became aware of an undulating sound. Suddenly, from the tall grass, a cloud of birds flew upward. They wafted like smoke across a cobalt sky, across the clouds, swirling north, then west and south. Behind them another wave rose, and another.

"Blue-winged teal," someone whispered. "And some green."

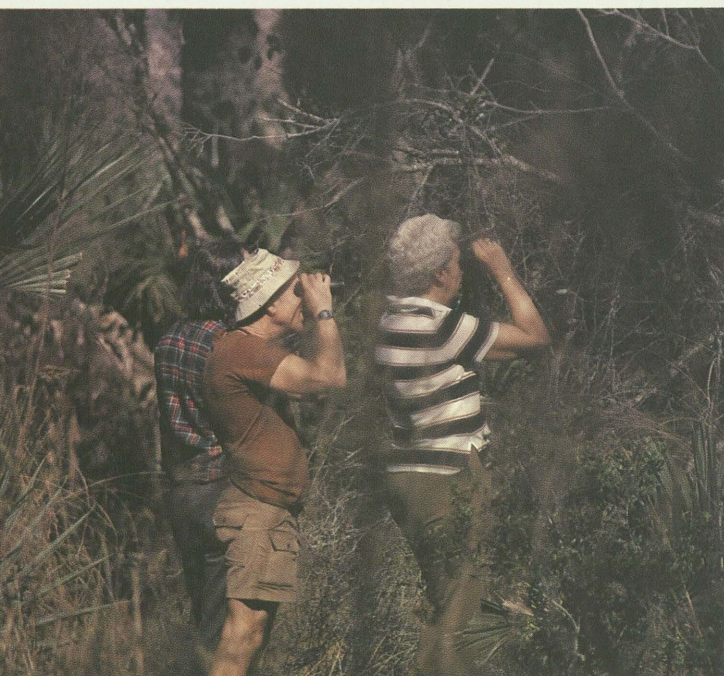
"How many?"

"Who knows? Thousands and thousands."

Long after the birds had settled down into the tawny grass, we remained on the bank absorbing the quiet, the wildness.

Tosohatchee is wild. *Although* the lake where we watched the teal is manmade, *although* the Florida Trail wanders around and across the Preserve, *although* the Bee-Line intersects it and four utility lines cross it, Tosohatchee has all the "tonic of wild-

Winter-bare branches of cypress, right, make spotting easier for birdwatchers, below. Blue-winged teal on the wing over Toso marsh and the white-tail doe, far right, are part of the varied fauna of the area.



ness" you could ask for.

The Preserve includes a stand of cypress with individual trees that were old when Ponce de Leon discovered Florida. There is an area of virgin slash pine which may be the only one in peninsular Florida. Among the ancient oaks, there is a pioneer house, built around 1903 of rough-hewn cypress and palmetto logs, with a bleached cow's skull over the door.

This is a habitat for deer, bobcat, bears, wild hogs, turkeys, bald eagles, ospreys, alligators, armadillos, wood ibises, hawks, owls, warblers, foxes, and raccoons.

The Audubon group had gathered at a restaurant parking lot just east of I-95 on State Road 520. We were a motley crew—young, old, workers, retirees, teen-agers. We all had the happy, haphazard look of people who get up before dawn and put on anything comfortable.



Photos by Mike Smith

Photo by Lynn Stone



By eight o'clock, we had formed a motorcade of about 20 cars and headed west on 520. We clocked off 15.6 miles and then turned north on Taylor Creek Road, a good dirt track that winds through a pine forest.

The road narrows until the tall, ramrod pines, almost touch the cars. It is dark and cool in the forest, but sunlight sifting through the trees turns the carpet of needles a bright orange. It sparkles on spider webs and gilds the bright green cabbage palmettos that grow rampant among the pines. Looking up, we see, a tracery of red maple leaves against the blue sky. This is the forest the Florida pioneers knew when driving their oxcarts from Sanford to Titusville.

At the old Beehead ranch house, we park our cars. Here the party is divided into riders and hikers. An experienced backpacker agrees to lead the hikers over the newly cut (and as yet unblazed) trails.

She rounds up her group and counts heads. But first a word of warning is sounded by Karl Eichhorn and Lon Ellis, the party leaders.

A week ago, we're told, a man who was helping to cut the trails was lost. Men on horseback spent half a night searching for him. They found him, finally, bedded down under big palmetto fans, alive but hungry. Moral: don't stray far off the trail.

We were now a motorcade of six cars, and Eichhorn had a warning for the drivers, too. "If you feel you can't drive over a bridge made of telephone poles, get in a car with someone else. And one car to a bridge."

Everyone stuck to their own cars. A bridge of telephone poles, nothing to it.

The road we followed wound through a variety of terrain. We crossed Jim Creek, a stream of sparkling black water which wanders down from the Deseret Ranch, crosses the Preserve, and empties into the St. Johns. We paused beside a bladderwort pond to look at the tiny yellow flowers mirrored in dark water. Those in the lead car reported seeing deer and a black boar. They also flushed a group of wild turkeys.

Near noon, we parked beside an old drainage ditch. Here we would have lunch, but first, those who could walk several miles, were invited to hike, along the spoil bank through the woods to the lake of the blue-winged teal.

The trail along the spoil bank was plain, but when we plunged into the woods, I discovered how easy it is to get lost. Wander off to inspect the wealth of ferns, the terrestrial orchids, the moss that grows around the base of the trees, or follow a butterfly or a warbler, and within minutes, you're lost.

Luckily, I found my way back to the group as accidentally as I lost it.

Then we stood on the bank and watched the teal.

Photo by James C. Greene



Photo by R. Marvin Cook, Wilderness Graphics

Two masked members of the Toso clan: yellowthroat, above and raccoon, right. Beauty comes in many forms, even a creepy-crawler such as the golden wood spider on the opposite page, shows an attractive color pattern. White ibis—a mature at far right, and an immature in darker plumage—confront a snowy egret at the left with the egrets' identifying black legs and yellow feet showing well.

TOSOHATCHEE



"About 80 per cent are blue-winged," Eichhorn said. "The rest green."

After lunch, we drove the trail again making a loop that would lead us back to the Beehead ranch

Photo by Mike Smith



Photo by Cliff Bickford



house. We passed through an area of wax myrtle interspersed with cedars, then drove along a line of utility towers.

A flock of wood ibises exploded from the tall grass. Atop the towers we saw osprey nests, one, two, five, seven. Young ospreys peered out from nests; adults flew about nervously.

We passed a pair of red-shouldered hawks perched symmetrically, one at each end of the metal towers. We passed a vulture roost. We saw alligators . . . two wild hogs. Cows. And a big Brahma bull.

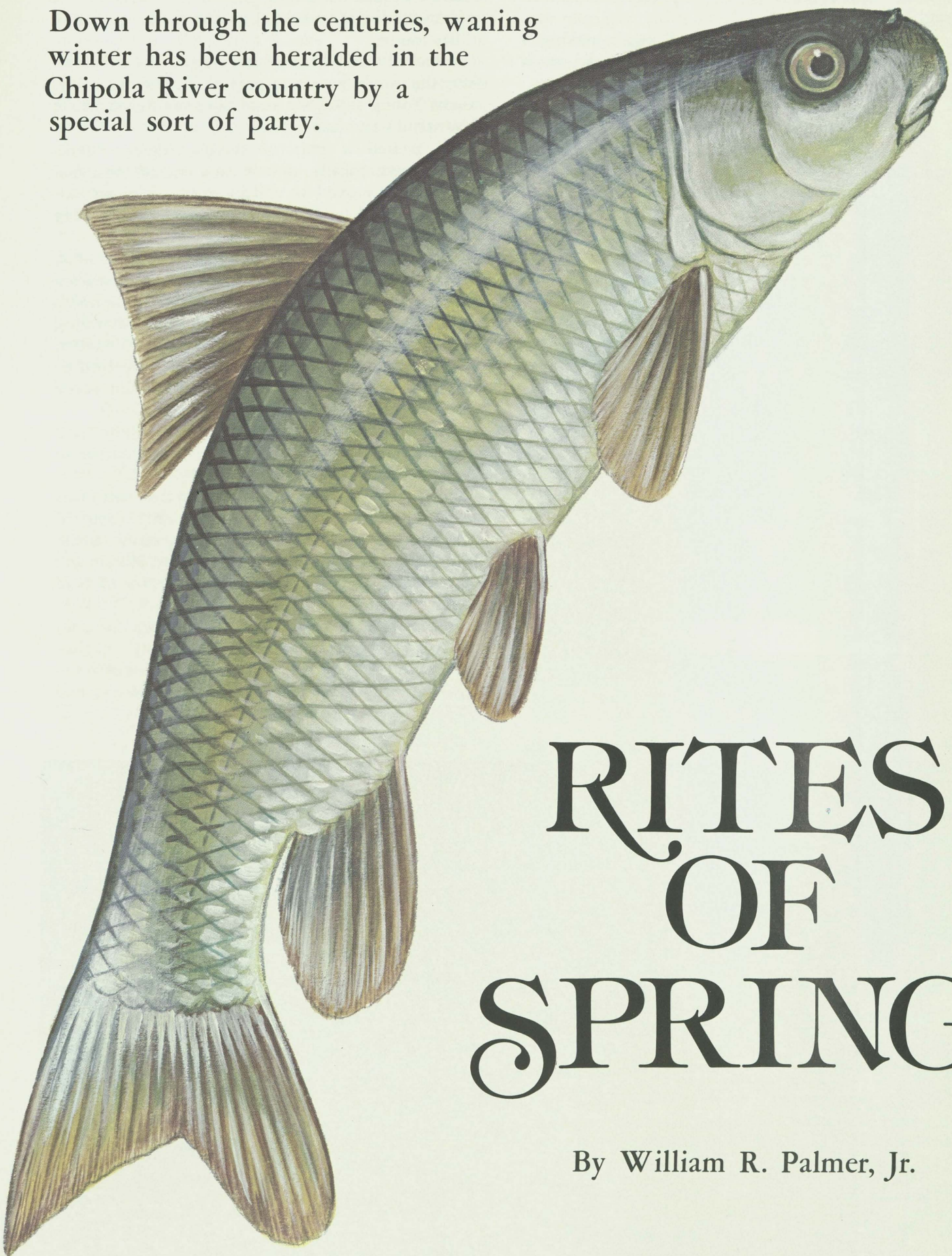
Occasionally, our cars splashed through small streams. The bridges were not for the faint-hearted driver, but there was no turning back. Some had a covering of rusting metal grills. The most alarming had a floor of metal slats that rattled like Venetian blinds in a hurricane. The telephone pole bridge, about 20 feet long, was easy to cross. You eased your tires into the grooves and kept going.

Meanwhile, back at the ranch, the hikers had gathered. They were lounging on the porch or in cars when we returned.

The plan for the Preserve is to keep it as natural as possible. There will be parking for only about 50 cars, and campsites for some 30 backpackers. Some of the roads will be underwater at times. Hikers will be required to stay away from the nests of bald eagles.

Tosohatchee is a rare spot. Safe haven for bald eagles and bobcats, a place where pines, maples, sabal palms and cedars will not be cut, where ten thousand blue-winged teal can feed in safety, and where man can enjoy "the tonic of wildness." □

Down through the centuries, waning winter has been heralded in the Chipola River country by a special sort of party.



rites of spring

By William R. Palmer, Jr.

Illustration by Wallace Hughes

It's a subtle thing, the early stirrings of the vernal season in the Florida panhandle country. Down along the stream courses and in the hardwood hammocks, air currents drifting through the winter-bare branches of oaks, hickories, sweet gums and ash carry an ephemeral, earthy fragrance.

Underfoot the first purple blossoms of the woods violets push up through the duff on the forest floor. Here and there mottled green leaves of the trilliums peek cautiously out of the leafmold carpet, hugging the ground as if aware that frosty weather is yet a distinct possibility.

There are other seasonal stirrings in the natural world. For one, in the deeper holes of the Chipola River, schools of silver-bellied suckers sense important things are in the offing. Gradually at first and then in increasing numbers they move up into favored tributaries. It's the clear water, sand and gravel riffles that draw them, where they spawn as generations of their kind have done before them.

As it has for untold springtimes passed, the sucker run triggered again this year gatherings of

the clan at certain favored spots in north Florida's Calhoun County.

An earlier manuscript treated the spring sucker run thusly: "The primary target of this fishery is the river redhorse sucker fish and its close relative, the spotted sucker. The two species ascend the Chipola River yearly in great hordes in order to spawn in the gravel and sand bottoms of the tributary creeks. This mass migration is dependent on early spring rains and the resultant warming of the cold winter waters. The run usually starts in February, or sometimes in late January, and extends into April, depending on water conditions and temperature."

The fact that the sucker was the first fish to appear in large numbers after winter's grip had relaxed a bit, made them very popular with the Indians who formerly inhabited the Chipola drainage area. Following a particularly hard winter on a restricted diet, the fish were undoubtedly greeted with considerable enthusiasm.

Suckers jammed the spawning tributaries in such numbers that they were easily obtained with arrow

Setting the upper barrier of poultry wire in Ten-Mile Creek.

Photo by Herb Brinkley





or spear. The primary method of harvesting by the Indians, however, was with the aid of weirs, fence-like structures, used to trap and confine the fish to a section of stream where they could be removed by hand or dip net.

The weir was constructed of peeled hickory saplings, generally 1½ to 2 inches in diameter and about 6 feet in length. The sharpened stakes were driven into the stream bottom to form a tight fence.

The chosen site was usually on a fairly straight stretch of creek, likely some 25-30 feet across and of a depth of perhaps 2 to 3 feet. The weir was comprised of two rows of poles forming a pair of fences across the stream, one some 20 or 30 feet upstream from the other. The poles were laced together with white oak strips or grape vine.

The downstream fence was provided with a gap a foot or so wide through which the suckers would pass on their upstream journey.

Suckers are extremely skittish while on the spawning run. They gather in deeper holes of the tributaries during daylight and move up into the shallow riffle sections to spawn at night.

When fishing the weir, which was done during the hours of darkness, the Indians usually placed

Same time, same place, different century. This site on Chipola River tributary has been scene of similar torchlight festivities since long before the European invasion of the country. Once the sucker is herded up against barrier, a deft hand is needed to seize and hold the slippery game.

several of the older men on the bank nearby to listen for splashing at the upper line of poles. This indicated that the fish had entered the trap. When the watchers decided that sufficient numbers of fish had entered, a youth was summoned to slip into the water and quietly close the gap with a woven wicker mesh.

Pine knot torches were now lit and the catching of suckers began. Most of the actual catching was assigned to the young lads, as the water was usually quite chilly at that early season. The light of pine knot torches gave relatively little reflection off the surface of the water, an aid in seeing the fish in the stream. Even in the modern fishery, torches are preferred over lanterns or battery lights for this reason.

All activity and light had to be kept away from the weir while waiting for the suckers to enter. Any

rites of spring

noise or light would cause the skittish fish to shy away from the trap and head back downstream.

It was for this reason that the campfires, and the families, were kept at some distance from the weir and only older boys and men allowed near the creek except during the actual capturing of the fish after the gap was closed. When the wild frenzy of chasing down the fast swimming suckers was over, the catch was transported to the campsite for a feast. The gap in the lower fence was again likely to be opened and guards posted to listen for the sounds that would indicate more fish trapped, and so on through the hours of darkness.

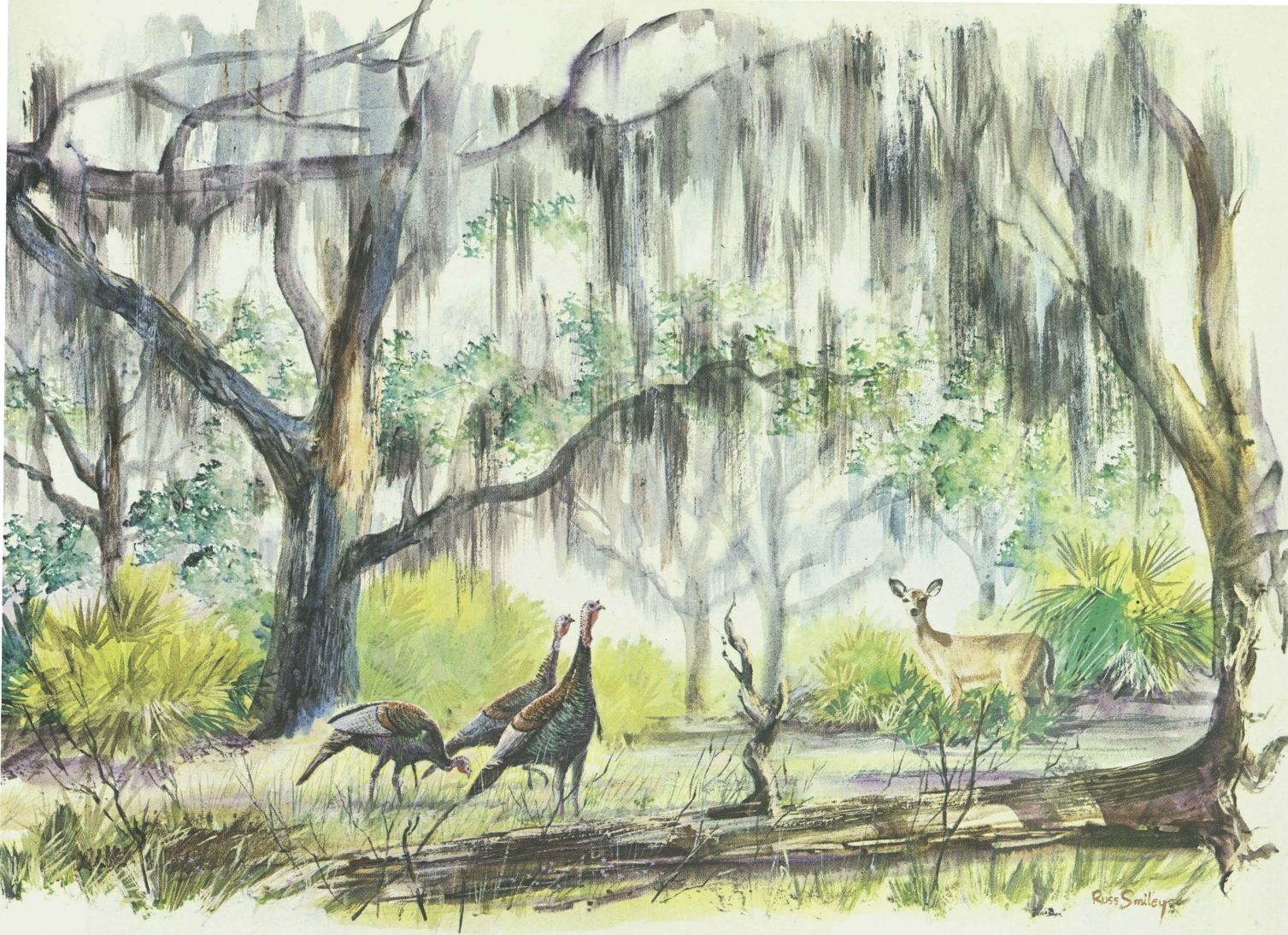
The early white settlers soon learned to appreciate

the coming of the sucker migration and they adopted the ancient techniques of harvesting them. By late winter and early spring usually the smokehouse was getting bare and the salted meat getting high. The sucker, though having a large network of small forked bones, is sweet-meated and delicious.

The hickory stake weir has now given way to an easier built dog wire or poultry mesh weir. The pine knot torch has been replaced by a rag and diesel fuel flame. But the carnival spirit that surely marked the annual sucker run in aboriginal times continues to be repeated even down to the present in these ancient rites of spring. □

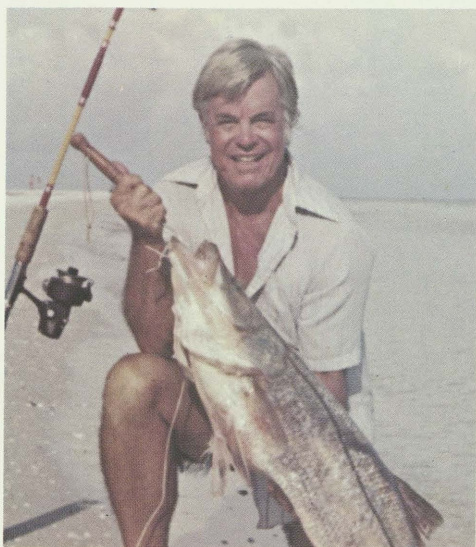
Photos by Herb Brinkley





A lifetime of painting, a love of wild things and a naturalist's knowledge of wildlife are revealed in the art of

Russ Smiley



Smiley

Looking at the marine world through a glass-bottomed boat is an unusual way to be turned onto Florida's abundant marine beauties. But it was precisely that kind of adventure that turned Russ Smiley onto a course which resulted in his becoming one of the state's foremost wildlife artists.

The boat was the Sea Garden, the first glass-bottomed boat to ever run out of Miami, skippered by Smiley's father, Earnest, a mining engineer turned ship's captain. The older Smiley had moved the family from Pinoche, Nevada in 1926 to the Gold Coast of Florida, just in time for the killer hurricane of that year. Despite the rather wet reception, Smiley fell in love with Florida.

By Trisha Spillan

Encouraged by his mother, Minerva (an accomplished author), Smiley drew the wild world around him. Birds, animals, fishes soon filled his sketchbook. His first painting, a sailboat, sold when he was just 17 and was followed by other sales and commissions. A career in art was born.

Now from his studio in Miami, Smiley reflects on Florida and its influence on his work.

"The real Florida, as we old-timers know it, is fast disappearing. The vast Everglades' natural balance has been upset. . . the National Park and Ten Thousand Islands are threatened.

"Almost all the virgin cypress swamps have been cut, due to man's so-called progress, coupled with greed and stupidity! I have lived here most of my life and enjoyed these beauties that do not exist anywhere else in the world. Now I find myself saying—'You should have seen this place 10 years ago!'

"I call it 'Vanishing Florida.' We have many fine conservation organizations that are working to save this fragile environment. We have to learn to work with nature and save these wonders for future generations."

An active and avid hunter, Smiley has been able to extend his painting into conservation work. He was selected in 1976 as the artist to design the National Wild Turkey Federation's first Wild Turkey Stamp. The print, which sold originally for \$65, was available in a limited edition of 1,000. It quickly

Left, painting entitled
CHANCE MEETING depicts
wild turkeys and
white-tailed deer



WOOD DUCKS



PROUD FLORIDA PANTHER poses on a cypress limb in the Everglades

sold out. Now, "if you can find someone who will sell," Smiley said, "the resale cost is \$1,500 each."

Limited editions are the bulk of Smiley's art. At the moment, he has 26 such prints available, along with a 1980 calendar featuring 13 full color illustrations.

One of his favorite, and most successful, prints is of 101 fishes of the south Atlantic. He has also done one of the major freshwater fish of America. Although he paints a variety of subjects, he believes the birds, animals, fish and landscape paintings remain his strong suit.

"I paint what I love—Florida with all its color, beauty and changing

Ross Smiley WILDLIFE ART

mood. Sea gardens with such dazzling color, it's hard to believe. Sawgrass, cypress swamps, and pine and cabbage islands and the many birds and animals that are found here.

"I hope that, through my paintings, I can help perpetuate this vanishing wilderness. Thoreau said it well . . . 'In wilderness is the preservation of the world.' "

It was this lure of fresh air and the outdoors that took Smiley out of the commercial art world to paint a place for himself in wildlife art history. Prior to breaking away, he had owned a commercial advertising art firm. But he abandoned that to pursue wildlife art fulltime.

Now he spends his time either at the easel, or behind the camera, photographing through the lens and in his mind's eye the myriad of intricate details which stamp a painting as a Smiley.

MANGROVE ISLAND SUNRISE greets a flock of roseate spoonbills



Russ Smiley WILDLIFE ART

His tenacity and eye for detail have brought him commissions from many prestigious groups, such as the International Game Fish Association, *Sports Afield*, and the National Geographic Society. Twice a year he has an exhibit at his studio on Miami's Northeast Fourth Avenue and will occasionally exhibit locally.

"A good picture is a lot more than pretty," Smiley explained. "Cameras make beautiful copies of nature. A painting, however, is the artist's love, and individual interpretation of nature. With talent, inspiration, knowledge of subject and craft, this sometimes results in a good painting.

"Who is to say that a Florida subject can't be as famous, beautiful, or as valuable as a Van Gogh?" □

For information about prints and paintings write: Russ Smiley, 8501 NE 4th Avenue Road, Miami, FL 33138

GUARD GOBBLER—Oak, cypress, palmetto habitat with wild turkeys





Bob Harn displays a beautifully-crafted Southern mountain rifle.

Photo by Frank Disbrow

The SOUTHERN Has Risen Again

The hum of a lathe filled the air as I entered Bob Harn's small, congested workshop. The sandy-haired machinist was busy transforming an iron rod into bolts for a muzzleloading rifle. Bob's sparkly light brown eyes grabbed my attention as he called out "Good afternoon, Frank! Happy you were able to stop by." It's always a pleasure to visit this amiable craftsman who has played a major role in helping the Southern to rise again in Florida.

What is a Southern? In the parlance of the growing corps of blackpowder enthusiasts, it is a Southern mountain rifle. Think of the rifle that Daniel Boone, Lewis Wetsel, Simon Kenton and their ilk carried in their wilderness wanderings. Got the picture? Good!

Now, let's examine the gun itself. This was a tool that most early Americans were familiar with throughout their lives. The native woods available for the stock were hard maple, walnut, and cherry. The wood might have some figure in the grain. The more curl in the grain pattern, the more expensive the rifle. The fancier the grain, the weaker the stock; therefore, for the usual stock, straight-grained wood was favored.

The lock—the firing mechanism of the rifle—was usually made by specialists in that field and bought at the general store. It was most likely made between 1800 and 1825 and usually described as the Birmingham type.

The barrel was of smaller caliber—.36 to .45—

BY FRANK DISBROW



made by Remington or other barrel-producing companies. Some rifle makers produced their own barrels. Barrel length of the old timers varied from a short 38 inches to a long 48.

So far, what we have sounds like a Pennsylvania/Kentucky style, the American long rifle. Apart from the basics, though, the Southern mountain rifle of Virginia, North Carolina, Tennessee, and Georgia is a completely different breed of cat.

For one thing, the hardware (trigger guard, butt plate, patch box, ramrod thimbles, etc) was almost always forged iron, rather than the brass of the Kentucky. This reflects the French descent of many of the area's gunsmiths as contrasted with the German and English heritage of many of the northeastern gunsmiths who favored brasswork.

Another difference was in the cross section of the forearm which was typically "V"-shaped in the Southern and a fat "U"-shape in the Pennsylvania/Kentucky.

Characteristically, the Southern's front sight was made of coin silver or bone, and was very low on the barrel. The low, bright front sight was necessary for a fast shot in deep forest. The nose cap was forged iron or, in most cases, non-existent on this workaday rifle. The ramrod thimbles numbered two or three and often the entry thimble was absent. The patch box was banana-shaped and of iron. More often, however, instead of a lidded patch box, an open hole in the side of the stock was provided to hold the tallow with which the ball patch was lubricated.

An iron trigger guard protected double set triggers. The back trigger had to be pulled first to set the front one, which then became a "hair trigger." Most modern double set triggers can fire the rifle by pulling the front trigger with or without pulling the back one first. However, this calls for a more complex arrangement and therefore is more costly.

Two features found on early Southern rifles but rarely on modern-made ones are the low sights and the funneled muzzle. Today's sights are much higher,

usually somewhere between seven and nine thirty-seconds of an inch. The higher sight is more difficult to align rapidly. But more important for competition shooting, heat wave distortion of the sight picture from a hot barrel is greatly reduced with a higher front sight. Today most shooters not only enjoy hunting with their blackpowder guns but also are likely to indulge in a considerable amount of target competition.

The funneled muzzle is formed by very careful file work. Enlarging the last inch or inch and a half of the bore at the muzzle allows for easier loading. The precise reduction of both lands and grooves is very time consuming and demanding work and consequently very costly. The use of the short starter in conjunction with a peg starter has eliminated the need for the funneled muzzle.

The old handmade rifles tend to show definite regional characteristics. The prime reason is the apprentice system. A local rifle-maker usually developed variations on the basic style. His apprentice picked this up during training. When he set up in business for himself, usually not far away from the scene of his training, he carried on the style he'd been taught. Thus, eventually that particular variation on the theme came to be recognized as "Bedford County", "Bucks County" or whatever style or pattern.

The Southern mountain rifle shows these regional styles but not to the degree of the old Pennsylvania/Kentucky ones. For one thing, the Southern was the working tool of the common man. Fewer specimens survived the hard use to which they were subjected. Perhaps too, when modern breechloading guns came on the scene, many of the Kentucky guns, with their typically eye-appealing fancy brass work were preserved whereas those surviving Southern rifles, plain to start with and battered by use, didn't always seem worth worrying about. Values do change when the viewpoint is from several decades on down the line.

Harn's development as a skillful riflesmith began

in 1962. His first muzzleloader was, in his words "a 2×4 piece of wood with a pipe on it." As his skills progressed, his machine shop grew. By the early 1970s, he was building the classical carved stock Kentucky long rifle. From the beautifully engraved, pierced patch box, the fine waterproof lock and the flowing tiger striped forearm, his product would have been treasured by any plantation master of old.

Harm has also produced excellent renditions of the Sam Hawken plains rifle. His large caliber, massive-barreled plains rifle would have been carried proudly by any mountain man of the fur trade era.

Bob Harn's mastery covers many types of muzzleloading firearms; however, his real love is the flintlock rifle. He enjoys the challenge of making a flintlock that works quickly and consistently. His goal is to produce a lock that fires a great number of hot sparks every time it is snapped.

With a grin, he gives a piece of sage advice: "Stay with the flintlock, the percussion cap is but a passing fancy." He believes that a good hard flint of the correct size and shape is necessary for consistent ignition. The most popular flint at the time of the American Revolution was the black English flint

Sign of the master, Harn's signature on the barrel of one of his muzzleloaders, left. Although he's produced a variety of blackpowder guns, the flintlock is his real love.

from the Dover chalk cliffs. It is still favored today.

Each Harn rifle requires 60 hours of precise shaping and inletting in addition to the time needed for the manufacture of the 50 plus parts. The butt plate is forged from sheet iron as is the banana patch box. The hand-forged, curved hinge of the patchbox is a geometric puzzle. The complex shape of the trigger guard is beaten from a red hot, square iron bar. Filing follows forging in forming the super smooth double set triggers. The breech plug and tang require a very graceful line and a fit that must be within 1/1000 of an inch in all directions. The wood shaping and inletting starts with a large piece of wood and ends with a magnificent set of curves and a wood to metal fit that a human hair cannot slip between.

Harn constructs rifles only during his free time. In 1978 he completed two rifles, a pistol, and a handful of locking pocket knives of his own design. 1979 saw six rifles and a pistol produced. One of these very limited edition Southern mountain rifles in the hands of Comer "Moon" Mullins captured the Florida state flintlock championship. Not only are Harn rifles beautiful and historically correct but they are accurate to boot.

I paused on the way out the door of Bob Harn's shop after a recent visit. Inside I could hear the sounds of a busy craftsman at work. It was good to know that another Southern mountain rifle was rising from walnut and iron. □

Photos by Frank Disbrow





Photo by Dennis Parker

MERMAIDS in DANGER

By Kyle Hill

I was not at all prepared for the frightening visage that greeted me as I squirmed from the craggy entrance of the underwater cave. Six feet above my fogged face mask loomed an apparition at least twelve feet long that was undoubtedly an escapee from the nightmare world! At an estimated 1500 pounds, the muddy-gray behemoth was seemingly put together from miscellaneous spare parts of other creatures. Its weasel-like eyes appraised me curiously as we held motionless, frozen in time, 60 feet below the surface of Crystal River. I shuddered at its huge spatula-like "caboose" reminiscent of a beaver's, that was obviously constructed to thrash hapless divers like myself. Its muzzle appeared to be that of a walrus who had failed to brush regularly as there were no tusks visible in the patch of stout bristles surrounding the bovine-like mouth.

At the tender age of 17 and on my first cave dive, I was not exactly the hero type. With a blast of bubbles that would have overturned the Queen Mary, I

headed for the surface, as fast as my fins would propel me. I was actually leaving the area at "warp speed" for my mother's sake; she would not relish remembering me as Jonah II!

Thus, in the summer of 1966, I had my first encounter with the most curious and perhaps most misunderstood Florida resident... the manatee. Due to ignorance and negligence, our Florida manatee populations are dying. People just like you and me are killing them! They are "threatened" with extinction as a direct result of human carelessness.

Scientifically billed as *Trichechus manatus*, these aquatic marvels are harmless, gentle, air breathing mammals who live and breed in warm water. They are massive, torpedo-shaped creatures growing to lengths of 15 feet and weighing more than 2,000 pounds. Manatees feed on submerged plants and are often called "sea cows" after their habit of lazing down Florida rivers, "grazing" near the water surface.

Over 50 percent of all human-related manatee deaths are caused by collisions with boats or barges. In 1979, human carelessness killed 11 per cent of Florida's manatee population.

Manatees are extremely vulnerable to cold water and, according to Dr. Howard Campbell, chief of the Manatee Research Program for the National Fish and Wildlife Laboratory, they appear to be unable to withstand water temperatures below 65 degrees for any extended period. There are reports dating back to the late 1800s of manatees dying during or shortly after periods of extremely cold weather in Florida. Research seems to indicate that the mammal succumbs to pneumonia infections after such exposure.

Manatees frequent 25 warmwater areas during Florida cold snaps and only six of these sites are natural springs. The remaining areas are "artificial" warmwater locations where effluents from power plants and factories raise the natural water temperature. Shutdowns of these factories due to clean-up operations or fuel shortages can result in large numbers of manatees dying through exposure. Manatees grazing on aquatic vegetation, such as Florida elodea, near the water's surface, coupled with their rather slow reaction time makes them especially vulnerable to unalerted recreational boaters speeding through manatee concentration areas. In fact, in excess of 50 percent of all human-related manatee deaths can be attributed to boat/barge collisions. Other human-related losses include manatees becoming trapped in canal locks in South Florida that are used in flood control and water level management.

Although manatees have been protected by Florida law since 1893, improved legislation, dubbed the "Florida Manatee Sanctuary Act," went into effect July 1, 1978. This law establishes a number of new comprehensive protection measures including

Photo by John L. Moran



Photo by Charles D. Dennis



Intentional killing of manatees occurs very seldom nowadays. Their habit of feeding near the surface and their rather slow reaction time make them vulnerable to injury from speeding boats.

the posting of speed zones in 13 warmwater winter congregation areas. Five hundred regulatory signs which require a dramatic slow down of boating traffic between November 15 and March 31 of each year have been erected. That period reflects the greatest concentration of manatees in these warm water refuges. The 13 areas are heavily patrolled by wildlife officers of the Game and Fresh Water Fish Commission, Marine Patrol officers of the Department of Natural Resources and special agents from the U. S. Fish and Wildlife Service. Boaters failing to heed the regulatory markers are subject to arrest and may face fines up to \$500 and/or 60 days in jail. New federal penalties, recently passed to aid the states in protection of manatees, command penalties up to \$20,000.

The West Indian or Florida manatee is a member of the scientific order *Sirenia*. This descriptive term was taken from the "sirens" of Greek mythology whose sweet songs beguiled sailors to their death. This analogy is probably related to the manatees' habit of raising their heads out of the water. It could also be linked to the mermaid-like manner of nursing young. Reliable observations of actual nursing in progress, however, has revealed that the young suckle while the mother is underwater in a horizontal position, belly downward.

Christopher Columbus noted the presence of these "mermaids" on one of his voyages to the New World. His ship's log recorded that they were not nearly as "handsome" as had been reported. Could be that Chris had not been at sea long enough!

These nearly hairless mammals are found in shallow coastal waters, bays and rivers throughout most of tropical and subtropical regions of the New World Atlantic. The Florida manatee is only one of four surviving species of *Sirenia*, three occurring in the tropical waters of the Atlantic and a close rela-



Photo by John L. Moran

A manatee has little chance of copping a beauty prize, but is an interesting member of our native fauna, nonetheless.

Wildlife officer, right, checks with diver at one of the popular manatee concentration areas.



Photo by Dennis Parker

tive, the dugong, native to the Indo-Pacific area. Both manatees and dugongs are thought to be distantly related to elephants.

Although the West Indian manatee occasionally ranges up into the Carolinas on the east and to Texas on the west, these visitations are probably only seasonal, with Florida the critical sanctuary for the U.S. manatee population. Original population levels of manatees in Florida are unknown, however, thousands may have existed before they were heavily exploited in the 1800s and early 1900s. Manatee bones have been found in pre-Columbian Indian villages in the state, indicating the animals were a regular part of the native's diet. Manatee bones were worked like ivory and the thick hide was made into tough leather. We do know that the manatee's first cousin, the dugong, is still killed for

the oil rendered from the blubber and for the meat of the body, reported to taste like veal. In Madagascar, for instance, the natives considered dugong flesh to be delicious and use powder made from the upper incisors in drugs for people who have eaten contaminated food; the fat of the head is used for headaches and the tallow as a laxative. Extensive killing by natives has placed severe pressures on dugong populations and fears have been expressed that these unique mammals may soon be exterminated.

Intentional killing of manatees occurs very seldom nowadays and only a scant number have been illegally butchered for meat during the last few years. It is primarily a manatee's sensitivity to cold water and its desire to seek warmer areas during the winter months that lead to tragic injury and death.□

HELP SAVE THE MANATEE

State and federal laws prohibit the "molesting, harassing or taking" of manatees even if the act is due to negligence. Since the killing of manatees is largely accidental, it is the state's responsibility to ensure that boaters are made aware of the potential danger that watercraft present to seacow populations. You might suppose that in a state like Florida, manatee awareness among citizens would be high. This apparently is not the case, attested by the number of manatees killed each year. The majority of the Florida boating public is evidently not familiar with manatees nor the dangers that can be caused by high speed travel through certain areas. To determine the state of "wildlife awareness" nationwide, the U. S. Fish and Wildlife Service recently conducted an in-depth research study. The result showed that only 26 percent of the over 3,000 participants interviewed were aware that the manatee was not an insect!

Other than direct killing by boats and canal locks, the type of "taking" referred to in state and federal law which may present a serious threat to manatees is undue "harassment". Harassment by divers attempting to touch or photograph them often forces manatees out of warmwater areas. Pursuing manatees or approaching closer than 50 feet can be considered as harassment under state and federal law. Other prohibited activities include separating a cow from a calf or any other act that could "disrupt the manatees' normal behavioral patterns." A good rule of thumb when observing manatees is to let them *approach you*.

Since there is a critical need for further research to determine other manatee mortality factors and to recommend further courses of action, a technical committee has been formed. Called the West Indian Manatee Recovery Team, the 11 members and consultants are composed from a variety of state, federal and private concerns focusing their full resources toward guaranteeing a future for Florida manatee populations.

A few dedicated workers cannot save the manatee. Manatees are being killed at an alarming rate and nearly 11 percent of the manatees left in Florida were killed in 1979. They were killed because speeding boats are more dangerous to manatees than diseases, poachers or weather. Manatees may live for 50 years or longer and have no natural enemies other than man. . .they also have no friend but *you*. What can you do to help? First, spread the word among boaters to slow down to "idle" or "no wake" speeds in manatee protection areas. Second, if you fish, do not discard tangled monofilament line into the water. Manatees are often injured by fishhooks and line entangled in aquatic plants on which they feed. Third, if you skindive do not attempt to touch manatees. Photograph them at a distance, let them approach you! Fourth, and most importantly, report persons harassing manatees to the Game and Fresh Water Fish Commission, the Department of Natural Resources or the U. S. Department of Interior. Rewards are available to persons giving information leading to the arrest and conviction of violators. Concerned conservationists reporting violators on Commission "Wildlife Alert" numbers can remain anonymous if they wish. A code number will be assigned for later contact. Dead manatees should be reported on the special "Manatee Information Line" operated by the Department of Natural Resources.

If all of us work together to spread the word about the plight of the manatee, the 800 plus "mermaids" that still call Florida home might be around for another couple of hundred years to "greet" young divers as they emerge from caves in search of adventure.

To report any instance of manatee harassment, injury or death

CALL ONE OF THESE NUMBERS—

GFWFC WILDLIFE ALERT (TOLL FREE) MANATEE INFORMATION LINE (TOLL FREE)

Lakeland 1-800-282-8002

Ocala 1-800-342-9620

West Palm Beach 1-800-432-2046

Lake City 1-800-342-8105

Panama City 1-800-342-1676

Florida Dept. of Natural Resources

1-800-342-1821

U.S. FISH & WILDLIFE SERVICE

(904) 386-8079

(305) 526-2916



Photo by James C. Greene

The BUTCHER BIRD

A songbird with the disposition and food habits of a hawk... By Trisha Spillan

An object hanging from the top strand of barbed wire fence caught my attention. Examination proved my eyes weren't deceiving me. Impaled on a barb was a very defunct frog, its head missing. It required no great detective work to solve this case. The frog had been a meal for a most remarkable bird, the loggerhead shrike.

What I had found was part of a shrike's larder. The small (8-10 inch) bird commonly hangs up the insects and small animals it eats. By sticking its prey on barbs or sharp thorns of a bush, the loggerhead shrike is able to feed easier, for this perching songbird has weak talons, and is unable to hold down the prey to tear the flesh with its strong hooked beak.

Dubbed "butcher bird," or "French mockingbird," the shrike is very unlike its songbird cousins. In fact, the habits of this gray, black and white bird are remarkably similar to those of a hawk. Almost strictly carnivorous, the shrike feeds on large grasshoppers and small vertebrates such as other birds, frogs, mice, voles and small snakes. Weighing between 50 and 60 grams, the bird has been known to kill and impale prey weighing 80-120 grams, easily twice its body weight, a feat not even an eagle can match.

Its coloration is similar to that of a mocking bird, but the colors are more distinct. Black tail and wings, gray upper body, white on the outer tail feathers and white bars on the wings characterize the loggerhead shrike, but it is his black mask which extends from eye to eye which sets him off. Both sexes look alike.

Lanius ludovicianus foresakes the habits of most songbirds and even hunts like a hawk, a kind of "sit and wait" game. For hours, perched on a telephone wire or the top of an exposed limb, the shrike can remain motionless, scanning the open spaces below with astounding eyesight, capable of spotting a grass-hopper moving on the ground at 100 yards. Then, with a

With fierce gaze, loggerhead shrike, left, surveys domain. A sure sign of butcher bird's presence—an ornate chorus frog and blackburnian warbler hang on fence barbs, below.



Photos by Robert L. Crawford

rapid beating of wings and a sail, it swoops in a steady, direct glide to its prey.

A fearless attacker, the bird kills by breaking the back or neck with its hooked beak, and thrashing the victim to the ground. Inevitably, it will then peck the head off and eat it first. The next step is to take the prey to its larder, or storage area. Since its talons are too weak to hold the prey while tearing off its flesh, the shrike first grabs the frog, bird, grasshopper or whatever with its beak. Hovering slightly off the ground, it transfers the intended meal to its feet and tenuously clutches the carcass on the flight back to a convenient strand of barbed wire, sharp thorn or even a crotch in a tree where the meal is tightly wedged. Now the shrike can carve and eat.

Often a shrike will accumulate several such victims in an area, referred to as a larder. The bird sometimes returns to feed, but to what extent appears to be a matter of debate among birdwatchers.

A common resident throughout Florida, loggerhead shrikes like open country with scattered trees to use for perches. A preferred spot is a roadside with telephone wires where they can sit and wait for prey. Longleaf pine forests appear to be a favored habitat.

Nesting as early as late February and early March,

Photo by Robert L. Crawford

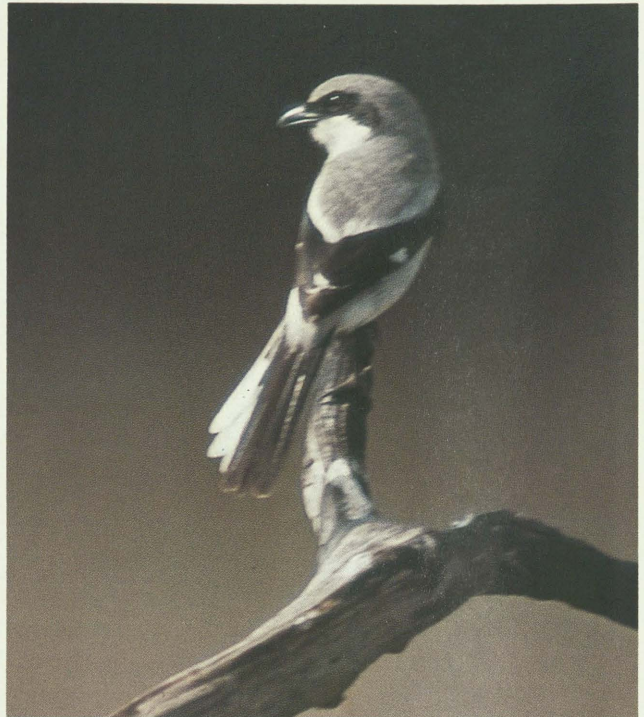


Photo by James C. Greene

shrikes position their bulky, deep nests from eight to 15 feet or more above ground, in foliage and usually at the end of a limb. They will sometimes even use a nest of another species left over from the year before.

Young appear by the first week in April. Once a brood is raised, shrikes will often nest again, and sometimes a third time in a season, each clutch containing four to five white, gray or buff eggs marked with gray, yellow or umber spots.

Several pairs may nest in a relatively small area, with hunting grounds and larders located well away from the nesting site. This is apparently a defensive measure to avoid attracting undue attention from potential predators.

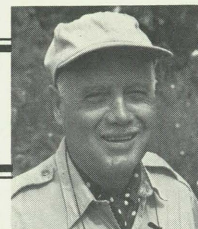
By the time they are 20 days out of the egg, young shrikes show the tendency to impale bits of food. While learning, the youngsters may practice by impaling odds and ends, such as bits of paper, on fence barbs and shrub thorns.

After leaving the nest, many of the young shrikes remain in the general vicinity and may be encountered there season after season.

Like the mockingbird, the shrike can imitate other birds, but can scarcely be considered a melodious singer. Its light phrases such as *queedle*, *queedle* and *tsurp-see*, *tsurp-see* are rather harsh and unmusical. But come spring, and its pleasant, mellow whistles are completely at variance with its usual call. □

Back view of a shrike, above, shows typical plumage pattern somewhat reminiscent of mockingbird. Juvenile rat snake, left, another victim.

HUNTING



By CHARLES DICKEY

Hear out any group of hunters on the best rifle for deer, and you'll still be undecided.

Hunters are always asking, "What is the best rifle or caliber for deer hunting?"

That's about like asking who has the best wife. If the marriage is working, anyone can make a good argument. If the marriage is in an uproar, you're better off discussing the weather.

Any experienced hunter says you'll shoot better if you stick to one rifle. You get to know its feel as intimately as your own toothbrush bristles. What is left unsaid, but assumed, is that you are hunting under the same conditions all of the time. If you are, then there's no doubt you'll shoot better by using one rifle that fits and in which you have confidence.

Florida's hunting cover and terrain vary greatly. While much of the hunting is in dense ground cover, the Everglades region, central Florida and Panhandle ranches and other open spaces may offer shots of 200 to 300 yards or more.

Most deer east of the Mississippi River are killed at distances under 75 yards. In much of Florida's dense ground cover, probably 50 yards or under is the most common range. But averages don't mean

anything when you're hunting a specific situation. An unscoped brush rifle is of little value if you see a monstrous buck 200 yards across a pasture.

For a national figure, the Winchester Model 94 lever-action 30-30 has accounted for more white-tailed deer than any other rifle, perhaps more than all others combined. It started out in 1894 as a repeating rifle for brush hunting and that's what it is today. Winchester seems to come out with gussied up commemorative models about every three months, but the capabilities of the rifle and cartridge have not changed a great deal.

The Winchester Model 94, and similar models made by Marlin, have certain advantages as brush rifles. They are short, easy to carry and swing rapidly in brush. An experienced gunner can lever cartridges through the action rapidly for second and third shots, although perhaps not quite as fast as Western movie stars shooting at the bad guys.

Some hunters mount telescopic sights of 2x or 4x on the brush guns. This helps in spotting bucks and shooting accurately. But the killing distance of the

Photo by Charles Dickey



What is the best rifle for deer hunting? The Winchester Model 94 lever action 30-30 has accounted for more white-tailed deer than any other rifle. It is a brush hunting gun. Most Florida deer are taken in dense ground cover. But, an unscoped Model 94 may be of little value if you see a big buck 200 yards away in an open space in the Everglades, a central Florida prairie, or a Panhandle ranch.

30-30 is limited. It's a slow cartridge and the bullet drops off rapidly. The rifle is not one a hunter would choose for sitting and watching savanna or pastureland where he might get shots of 200 or 300 yards.

The 30-06 rifle is probably the most popular caliber in America. One reason is the versatility of its bullet choices. The bullets vary from 125 grains, with a muzzle velocity of 3,140 feet per second, to 220-grain bullets, with a muzzle velocity of 2,410 f.p.s., and a lot of options in between.

It's a good all-purpose rifle, especially if one is selective in bullet weights. Some gunners think the 30-06 caliber overguns whitetails in Florida, especially in the lower half of the state where the bucks average a smaller size than along the Georgia border. Hunters who espouse this are often good shooters who try to place their smaller caliber bullets for clean kills.

The 25-06 Remington cartridge with a 100-grain bullet has a muzzle velocity of 3,230 f.p.s. It's a good flat-shooting cartridge for whitetails in Florida at ranges up to 300 yards. The .270 Winchester in 100-grain bullet has a muzzle velocity of 3,480 f.p.s. Once one of the most popular calibers for deer hunting, it seems to be slipping a bit. But it's still a top caliber for ranges of 200 to 300 yards.

For the hunter who tries for clean kills, the .243 Winchester cartridge has many advantages. The 80-grain bullets have a muzzle velocity of 3,350 f.p.s. and shoot flat up to 200 or 250 yards. The 6mm Remington cartridge in equivalent bullet weights is just a bit faster. One of the big advantages of these calibers is that the shooter does not get banged around from recoil as he will from a 30-06. The .243 caliber is excellent for a boy's or woman's first centerfire rifle.

The hunter who hunts only in open country needs a rifle which shoots flat and has killing power at 200 yards plus. When he drives or sneaks through a hammock, he can get by with the same rifle used as a "brush gun," especially if his scope is variable and he reduces the power to 2x or as low as it will go.

No hunter can or will take two rifles to the field to cover varying conditions. The key is to take a rifle suited for the conditions there, or those you *expect* to find.

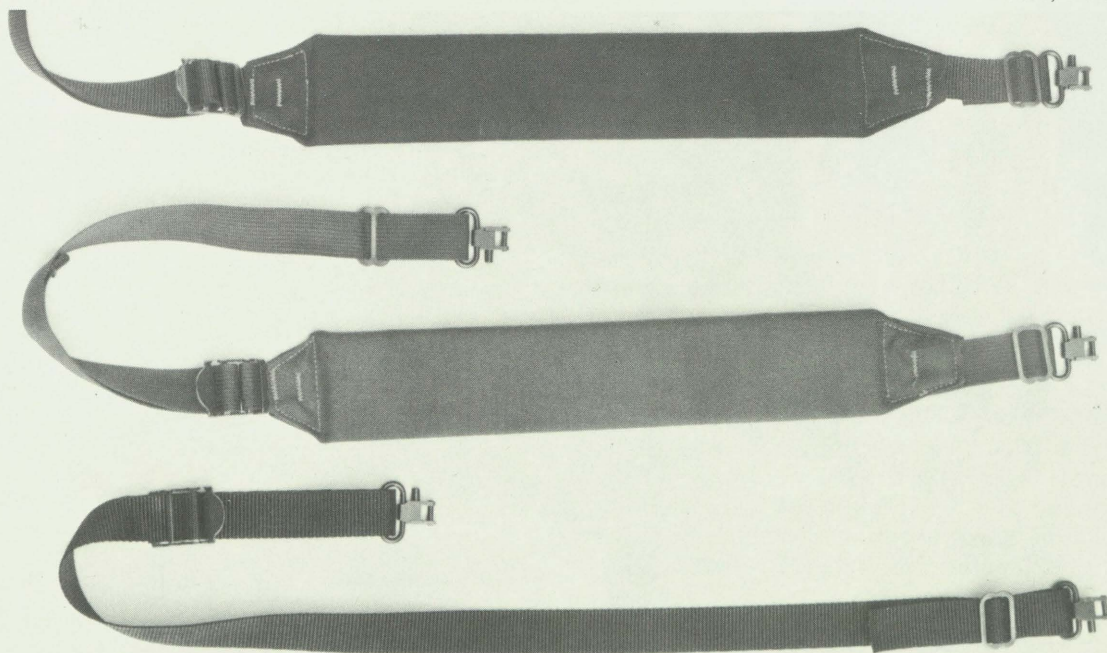
The nature of most rifle hunters is that they are never satisfied with one rifle although they are forever looking for "the" perfect rifle. For most hunters, continually experimenting with another caliber is part of the fun of shooting and hunting. The hunter who owns four deer rifles always needs just one more. It's the same for the hunter who owns a dozen. None can satisfactorily explain to their wives why one rifle is not enough for a few deer hunts each season.

Fortunately, the rifleman has a better choice of guns and ammunition than ever before in the history of hunting. His problem is to select a rifle caliber which fits his hunting conditions, not those of someone else.

I seldom go through a hunting season that I don't hunt at a new place, usually without much information on cover conditions. Once as a guest, I ended up on a hunt with a shotgun and rifled slugs. It was my impression that the hunt was to be with dogs in thick second-growth. All of the other hunters had scoped rifles. The hunt was actually one of sitting in permanent tree blinds and watching the edges of huge, flat pastures at daybreak.

You'd be surprised how many hunters lectured me on the value of scoped rifles. In fact, some made

Photos by Charles Dickey





New nylon carrying slings for rifles and shotguns, left, are light and strong. They don't rot or mildew. For certain usage, nylon may be preferable to the traditional leather slings. The Baker platform ladder, above, is much easier to use than the climbers that go with most portable tree stands. The platform ladder is portable and can be packed in. Once it's put up, the hunter can quickly and easily go up and down.

sly remarks about lobbing a rifled slug 200 yards across the field like a mortar. Now, when I go to a strange place, I take at least two rifles and a shotgun. My wife doesn't understand why I need to take three guns when I can only shoot one at a time.

Slings for Guns

Most deer hunters put a sling on their rifles or shotguns, not so much for improved accuracy in shooting but to make toting easier. After all, a fair percentage of a deer hunter's time is spent in lug-

ging a gun around which gains weight with each passing hour.

Not many wing shooters or upland game hunters bother to put slings on their shotguns. I swear to put one on mine each year but never seem to get around to it. Most of my determination to add a sling is when I'm lugging a shotgun through a swamp before daylight to go duck or turkey hunting. I also get another burst of inspiration on the long hike out of the woods. Then I go home and forget all about it.

Anyway, Michaels of Oregon has introduced a series of inexpensive carrying straps for rifles and shotguns that should interest Florida hunters. The slings are nylon webbing with blued steel buckles for quick adjustment.

One of the features which appeals to me is that the nylon slings won't rot or mildew. If you live in Florida, that's a timesaver. Leather slings, no matter where you store them, have to be cleaned and oiled. If you aren't careful, they'll saturate themselves in mildew.

Nylon is lighter than leather. In case you want to take the sling off while hunting, nylon will roll up for convenient carrying in a pocket. Leather slings don't.

The Baker Ladder

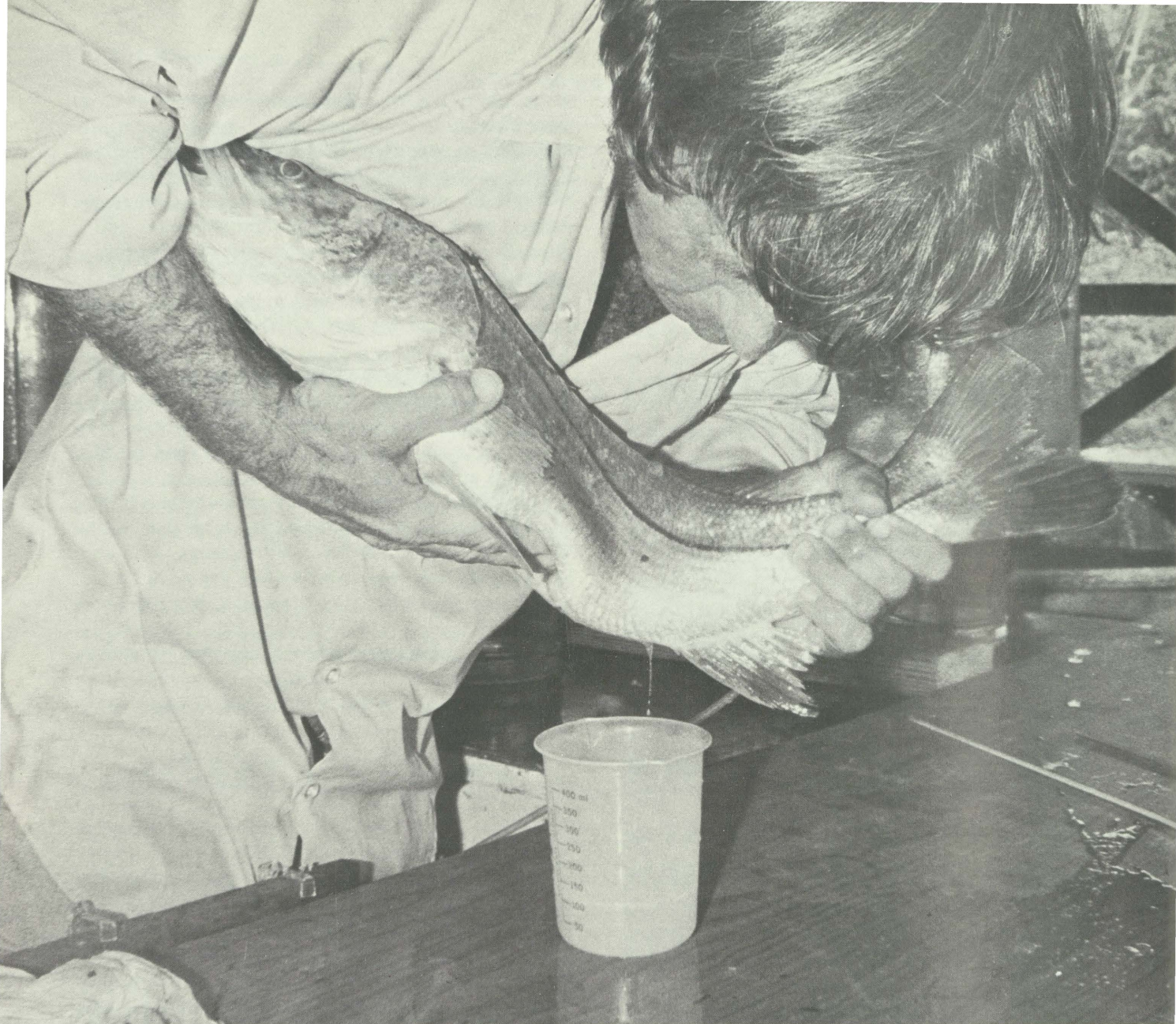
There's hardly any deer hunting in the state where five feet of extra elevation won't improve your chances of seeing a buck. Bowhunters and riflemen have taken to portable tree stands like chiggers to soft stomachs.

A portable or permanent tree stand is standard equipment for many deer hunters today, especially bowhunters who need to be close to get a clean, killing shot. I have mixed emotions about using portable tree stands, although I do at times. I'm at the age where my bones are getting brittle but I'm not yet old enough to qualify for Medicare. It's awfully inconvenient to break something which requires a large cast right at the start of the hunting season.

Jim Baker, who pioneered portable tree stands from his plant in Valdosta, Georgia, has come out with the Baker platform ladder which makes it easier for hunters to go up and down trees. The ladder and platform will allow you to sit comfortably 12 feet above the ground.

The ladder and platform break down for back-packing. It takes about five minutes to assemble and put into climbing position. A stabilizer strap is used about five feet from the ground to secure the ladder firmly to a tree.

The platform ladder is ideal for the hunter using private land. He can leave the ladder up after he completes a hunting session. Later, if he wants to move the ladder to a scrape or runway, it's a fairly easy job to break it down and pack it. □



No one told Commission biologist Phil Chapman that raising snook artificially would be an easy task. It hasn't been. But despite earlier problems, the six-year-old snook propagation project has been launched anew with a little more optimism and a lot more knowledge.

Staffed and researched by the Florida Game and Fresh Water Fish Commission and sponsored by the Collier County Conservancy, the program has a two-fold purpose.

"We hope to provide better fish management where there are over abundant forage and rough fish species such as shad and tilapia. The snook is a very efficient predator and will hopefully provide a biological means of control for the problem species," Chapman explains.

"We also hope to provide the angler with an additional sport fish species famed for its craftiness,

YEAR of the SNOOK

By STEVEN W. MARTIN

fighting abilities and its sweet, mild-tasting fillets," he added.

More than one million stripers and sunshine bass are produced each year by the Commission. Using the techniques developed for hatchery rearing of striped bass in Florida, Commission scientists are hopeful that snook, *Centropomus undecimalis*, though never before artificially propagated in large numbers, may also be cultured and released in fresh water habitats.

The 1980 summer spawning season is now underway at the Dearholt Lab, Rookery Bay National Estuarine Sanctuary near Naples. The spawning of this largely saltwater species has been highly successful with a 95 percent hatch rate. Based on the figures of 30,000-90,000 eggs produced per pound of brood fish, a healthy 13-pound snook may produce over one million eggs. But raising the post-larval fish (fry) through its delicate early life stages to the fingerling size for release in Florida lakes has thus far met with very limited success.

In previous years, quarter-acre saltwater ponds were used in the attempt to rear snook. The first year, 1976, no fingerlings were produced. In 1977, 300 fry made it to the fingerling stage. Encouraging though this was, it represented only two tenths of one percent survival of the fry released. In 1978, only 150 individuals survived to fingerling size.

The rearing pond method of raising fish is widely accepted in fish cultural circles but in this case the ponds utilized were suspect because of problems of maintaining water quality and the extreme water temperature fluctuations.

So, in 1979, biologists Paul Shafland and Chapman put their heads together to evaluate alternative techniques. The season plan that resulted called for placing fry in fine-mesh cages in the brackish waters of Rookery Bay, an estuary known to be a natural nursery area for fingerling snook.

This approach was encouragingly successful, with a much larger percentage of fry surviving the critical first four to five day period. Adding artificially raised zooplankton to the cages satisfied food demands.

"Approximately 500 one-inch snook were artificially produced and harvested last year despite cage design flaws and complications," Chapman said. "The fry were acclimated to fresh water with no

problems at four weeks of age. Some 60 percent survived the two-month pond grow-out period to reach the three to four inch fingerling size. These were released in selected lakes."

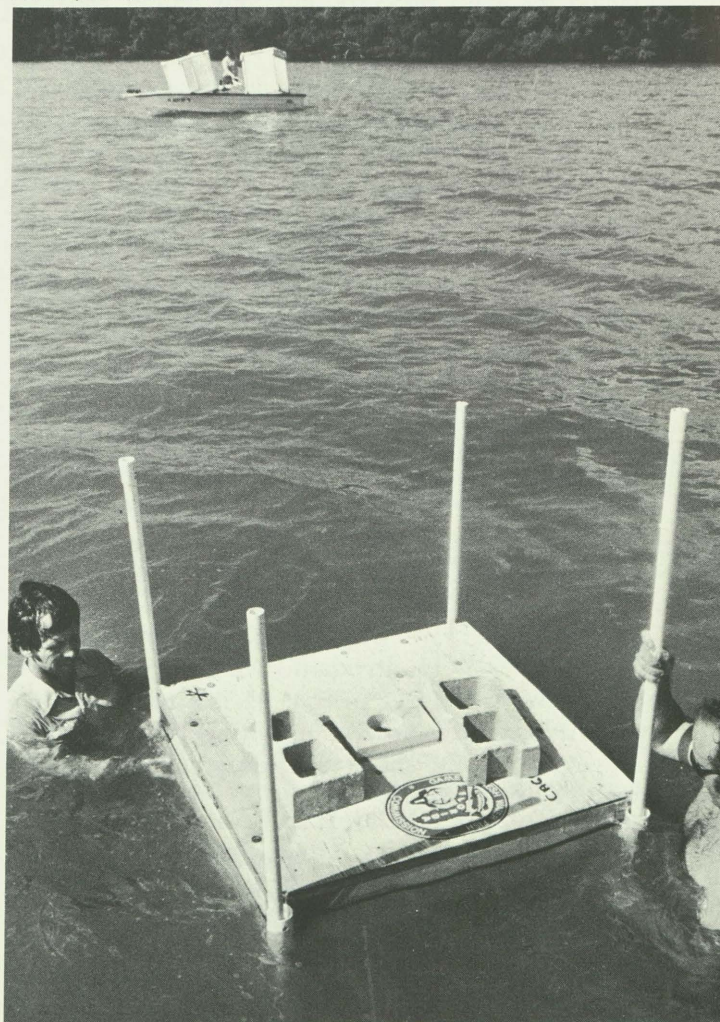
Growth rates for the 1978 fingerlings recaptured from Palm Lake in Stuart showed that the fish had made an impressive one inch per month gain, reaching 18 inches in a year and a half. Snook in salt water are usually three year olds by the time they reach this length.

The beginning of the rainy season signals the start of snook breeding. Catching brood snook for artificial spawning is the first task facing the Lakeland-based Commission fisheries crew.

Armed with fly rods, a handful of weedless streamers, and a can of mosquito repellent, the snook men prowl the mangrove country on the lookout for feeding fish. For avid sport fishermen, this assignment is nothing but pure joy. Ten-pounders are common, 20-pounders are thrillers, and 50-pounders are near record busters. But it's serious business—success or failure of the project depends on putting snook in the live box.

Relatively few anglers who work the coastal es-

Photos by Steven W. Martin



Biologist Phil Chapman, above left, strips eggs from a ripe female snook. A healthy female produces 30 thousand to 90 thousand eggs per pound of brood fish. Fertilized eggs begin to hatch into post-larval fry in 18 hours. Fisheries workers, right, secure a culture cage in the natural snook nursery grounds of the Rookery Bay National Estuarine Sanctuary.

tuary use fly rods, but for these men, that type of gear is a natural. The fly is placed with precision among the tangled prop roots of red mangroves and retrieved without being hung up—unless taken by a big fish determined to burrow into the underwater thicket.

Snook are notably temperamental in their feeding habits. They work the tides, with the peak action occurring around the change. Usually as abruptly as it starts, the action ceases.

In this way the four-month season continues, with the fishing effort concentrated in and around passes where the fish congregate to spawn. The season begins in May, peaks in June and wanes by August.

Spawning occurs on an outgoing tide, most frequently on full or new moons when tides are strongest. The female releases her eggs which float to the surface in the briny water. Several males school around her and release their milt into the water near the eggs.

In the laboratory, timing is an extremely critical consideration. Thirty to thirty-four hours before stripping the eggs, the ripe female is injected with a hormone to accelerate egg development. Eggs are expelled by hand pressure and milt, either fresh or refrigerated, is added to the eggs.

The fertilized eggs are immediately placed in floating incubation funnels where seawater temperature is maintained. Hatching begins in 18 hours and is complete in 24 hours. The young fish are stocked in the culture cages where, after about 48 hours, they begin feeding. Food availability and size are critical for the minute fry. Some plankton may be too large for the tiny snook to consume while other, larger plankters may become the consumers rather than the consumees, eating the fry.

"To overcome this critical food-size restriction, we raise and then filter zooplankton with calibrated screens to provide the fry with suitable-size food," the biologist said. "As the fry grow, larger zooplankton are substituted."

The fry remain sheltered in the culture cages for about a month, protected from predators and provided with an abundant food supply. The now inch-long fish are shipped to the Commission's Boca Raton Lab for acclimation to fresh water and a two-month grow-out period. By late fall they have grown into three to five inch fingerlings. At that stage the young snook are ready for stocking in south Florida lakes.

Fisheries specialist, Ken Jones, displays late season lunker snook caught near Caxabas Pass south of Marco Island. Snook thrive in either fresh or salt waters, but cannot tolerate water temperatures that are lower than 60 degrees.

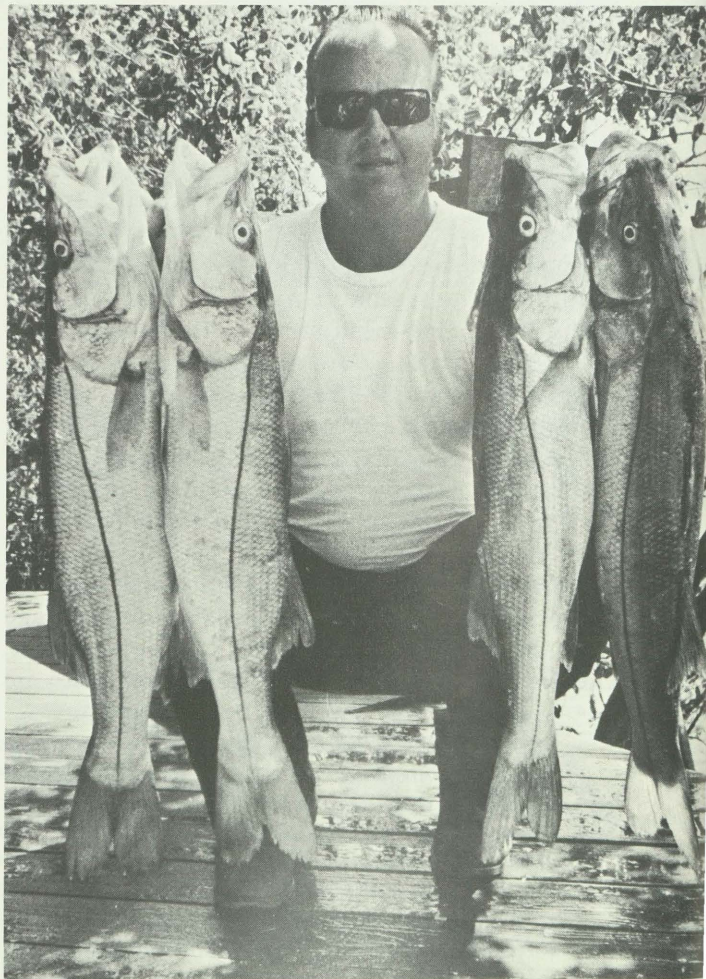
Despite the snook's ability to thrive in either salt or fresh waters, a temperature of 60° F. is as low as the tropical species can tolerate. Below this temperature snook are stunned, they suffer physiological stresses, stop breathing, and die. This limits the possible areas for stocking to south Florida, or to thermally heated lakes elsewhere.

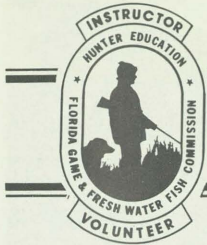
The 300 snook raised in 1979 were stocked in Turnpike Pond and Mental Health Center Pond in West Palm Beach, and the Boca Raton College Pond in Boca Raton.

"The Commission's goal—to achieve a large scale production level of snook—is spurred on by the recent successes and by recognizing that this fish is the complete game fish. Despite its sensitivity to low temperatures, it is adaptable to fresh water, it provides an exciting new challenge for lake fishing and it fills a need in helping to restore lakes to a biologically balanced habitat," the project director said.

At any rate, it looks as though some of the major kinks have been ironed out of the program. Just maybe, 1980 will go down in the annals of Florida conservation as the Year of the Snook. □

Photo by Steven W. Martin





Hunter Education News

Firearms Safety In The Home

About this time of year, most sportsmen are busy checking over their fishing tackle, cleaning reels, straightening out tackle boxes, perhaps touching up some favorite plugs; but with hunting seasons now over, it's also a good time to spend an evening on a home firearms safety check.

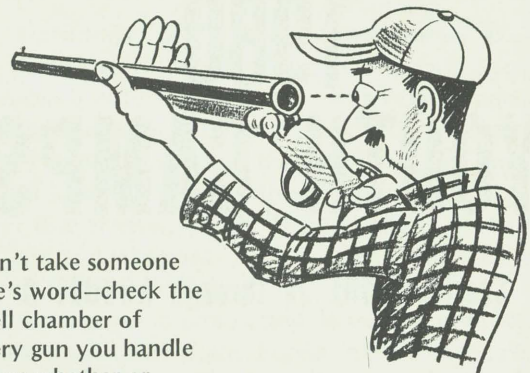
While some gunners may think of safety as largely a matter of proper gun handling in the field, safety in the home is equally important. National Safety Council figures show that about twice as many firearms accidents occur in the home as outdoors.

There's nothing complicated about gun safety in the home. The rules are few in number and easy to follow. Beyond the basic precautions, however, are the equally important attitudes of respect and seriousness which should always be encouraged and maintained when dealing with guns.

Double-checking to make absolutely sure that all your guns are unloaded is an obvious and most important first step. More than one veteran shooter has experienced the disturbing sensation of discovering a shell in the chamber of a gun he thought was unloaded.

Even if you are sure that a gun is unloaded, it should not be handled or shown to a friend without first opening the action and checking again. Among experienced gunners, this is a kind of ritual that is repeated whenever a firearm is examined. It's a good habit to get into.

Your next step should be to review your firearms storage facilities. Rifles and shotguns should be stowed securely in racks or cabinets, preferably locked. Handguns should be stored in a locked



Don't take someone else's word—check the shell chamber of every gun you handle to see whether or not it is loaded.

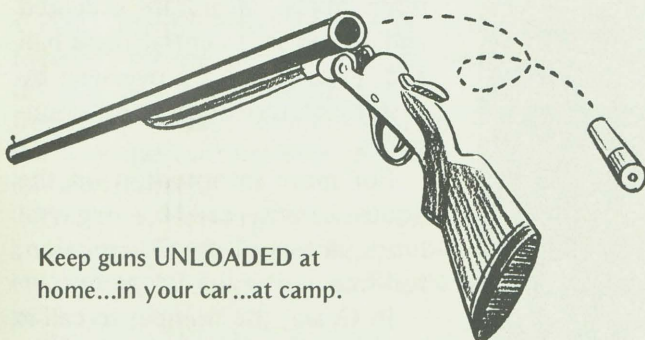
cabinet or drawer. Locked storage is particularly important if there are children in the home.

Standing a shotgun in the corner behind the kitchen door or keeping a handgun in the desk drawer is not suitable. If secure storage is not available, trigger locks should be used. Breech locks for rifles are also available. Again, if there are children in the home, such locking devices are highly recommended.

Your last safety check should involve your ammunition storage. For complete safety, all ammunition should be kept under lock and key and in a location separate from your firearms. An extra safety measure, particularly with children present, is storing ammunition in another room or on a different floor level. The objective is to create a situation in which a conscious effort is required to bring firearms and ammunition together.

There is no excuse for careless gun storage or handling. If you have not already done so, make sure that you are following all the basic precautions involving firearms safety in the home.

Two excellent reference pamphlets on safety, "Firearms Safety in the Home" and "The Handgun Guide," are available from National Shooting Sports Foundation. Proper gun handling in the home and suggestions for the proper home storage of firearms and ammunition are covered in "Firearms Safety in the Home" as well as a section on safety considerations for the storing of reloading components and black powder. In addition, there are chapters on safety education, construction of home ranges and firearms etiquette. "The Handgun Guide" covers both basic handgun safety and handgun safety in the home as well as sections on marksmanship, competitive shooting, handgun hunting and handgun law and legislation. Both booklets can be ordered for 25¢ each from: NSSF, 1075 Post Rd., Riverside, CT 06878. □



Keep guns UNLOADED at home...in your car...at camp.

Drawings by Wallace Hughes

FLORIDA GAME & FRESH WATER FISH COMMISSION'S 1980 YOUTH CAMPS

Sessions JUNE 15 through AUGUST 9



Learning safe gun handling

Is there a better way to introduce a youngster to the out-of-doors than sending him or her to one of the Florida Game and Fresh Water Fish Commission's youth camps this summer?

There may be, but far too often we, as parents, are too busy to personally guide our children through such a well-rounded experience.

The Commission operates two camps, one in the Ocala National Forest at Lake Eaton and the other near West Palm Beach in the J.W. Corbett Wildlife Management Area.

Close to 2,000 youngsters between the ages of eight and 14 will attend those camps this year and what they will learn can contribute to increased pride and

pleasure in outdoor activities.

The purpose of the camps is to teach responsible use of the fields, woodlands and waterways of Florida.

This is done through classes in such areas as conservation, nature study, wildlife identification and ecology. Classes are taught by staffers knowledgeable in their different subjects.

But the camps aren't totally educational. They're a lot of fun. Campers will fish, swim, hike, participate in songfests, and, in general, have a good time.

The cost of all this is surprisingly low. The fee for a weekly session is just \$60 and covers all meals, housing, programs and insurance. The campers will live in cabins with others of their same age and sex, and bathroom and shower facilities are near at hand.

The camper's medical needs are overseen by a full-time registered nurse. Meals are prepared and served in a central mess hall and all activities are overseen by a staff of instructors and counselors.

For more information on the youth camps, call the regional headquarters of the Commission, toll-free.

In Ocala, the number to call is 1-800-342-9620. In West Palm Beach—1-800-432-2046. □

Learning to respect an alligator

Game Commission Photos



1980 SUMMER ENVIRONMENTAL PROGRAM

The scene could be right out of a Western movie. . . small fires encircling a lake in a forest clearing, pale moon shimmering off the still water, and an occasional call of an owl the only sound breaking the silence.

It's no movie however. It's the first night of camp at a Florida Division of Forestry Summer Environmental Center. The fires are lanterns, not campfires, and the folks huddled around them are junior and senior high students, not Indians or cavalrymen.

The students—more than a thousand of them last summer—come to the forest to learn more about their environment, and to have a good time. They sleep in rustic bunkhouses and eat hot meals in a modern cafeteria. But that's about all they do inside.

Most of the campers are city kids, and what better way to introduce them to the mystic of the forest than a walk by lantern-light, learning to identify forest sounds during a "quiet time" at dusk down by the water, and then a week of discovery in the world's largest classroom—the outdoors.

An appreciation of nature and knowledge of its effect on each of us—city and country dwellers alike—is of utmost importance, especially in a state like Florida that is rapidly losing ground to urban sprawl.

The program developed by the Division of Forestry is designed to lead the youngsters into this awareness by letting them discover things for themselves.

Groups are kept small so each student can participate in every exercise, and sessions are kept short and lively to keep interest high.

The sport of orienteering is used to teach the campers how to find their way in the forest using a map and compass. Afterwards, a typical exploration may involve locating a small stream, taking tests (dissolved oxygen and acidity level) to determine what types of life forms should be found in the water, and using a seine net to obtain samples to see if the water tests were accurate.

Plant identification is another typical exercise, followed by the campers making leaf prints. One full day is spent canoeing down a river, stopping frequently to visit different types of habitats along the way and learning how each type plays a role in our environment.

The instructors are Division of Forestry personnel, and specially selected college students majoring in environmental education, ecology and related subjects.

"We spend a great deal of time choosing our instructors," notes Environmental Forester Barry Gay,

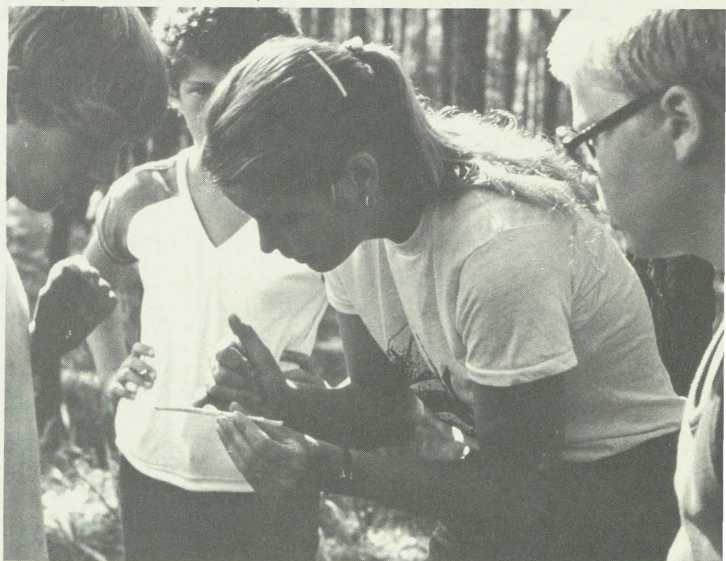
the coordinator of the summer program. "We want not only knowledgeable instructors, but ones who relate well with young people. It's very important to us that these kids have a good time while at our camps because we feel they will become more involved in the program if they're enjoying it."

For that reason, plenty of free time is left for team and individual sports, for hikes and campfire chats, or for just plain loafing.

The program is conducted at two centers—one at Blackwater River State Forest near Pensacola, the other at Withlacoochee State Forest near Tampa. At the end of each week's session, the outstanding campers are chosen for a FREE second week during which they camp out in tents and put to practice the things they learned the first week.

Anyone who has completed the sixth grade, but not yet entered the 12th, is eligible to attend. The fee is \$60, including a \$10 non-refundable deposit which must accompany the application. Ten one-week sessions will be held at both centers, the first beginning June 15 and the last August 17. Applications and additional information are available from any Division of Forestry office, or by writing: Florida Division of Forestry, Environmental Forester, Collins Building, Tallahassee 32301. □

Photo by Florida Division of Forestry



A staff member shows students how a core sample of wood reveals hidden secrets from the past.

CONSERVATION SCENE

IN BRIEF:

Commission employees working out of the Fort Lauderdale office recently conducted an Everglades airboat tour for Great Britain's Prince Andrew. The Prince is a midshipman aboard HMS *Hermes*, an anti-submarine and commando carrier.

■
Evidence that tilapia continue to expand their range was discovered last month when a three-pound blue tilapia showed up in a Palm Beach County lake. This was the first of the species noted from Palm Beach County though other exotics are common. Southern Dade County waters are known to harbor numbers of blue tilapia and spotted tilapia have been found in Broward

Photo by R.E. Avallone, Broward Times



Wildlife Officer Jerry Lord and Great Britain's Prince Andrew

IGFA COVERS SPORTFISHING RECORDS

The International Game Fish Association has, as a result of negotiations with a number of independent organizations, become the recognized keeper of sport fishing records, freshwater as well as salt.

Freshwater records will be kept in 4, 8, 12, 16, 20, 30, 50, 80 and 130-pound line classes and fly fishing records will be maintained in the 2, 4, 8, 12 and 16-pound tippet classes. The all-tackle freshwater world records, inherited from *Field and Stream* magazine in 1978, will continue to be maintained. Recently pending or established records from the Fishing Hall of Fame and the International Spin and Fly Fishing associations will be considered by

IGFA for eligibility as existing records if they fit new criteria.

The first world records to be established for the new line classes and fly fishing programs will be determined by the re-

sults of a special world record freshwater fishing contest. It started with catches made on January 1, 1980, and will end with all entries received by IGFA as of November 30, 1980. IGFA angling rules will apply and entries must be made in accordance with IGFA world record requirements. Entries can be made using existing IGFA world record or contest application forms. There is no limit on number of entries submitted by anglers, and no charge for processing entries.

Information on the contest, and the International Game Fish Association, is available from International Game Fish Association, 3000 East Las Olas Boulevard, Fort Lauderdale, Florida 33316.

NOTICE!

Limited edition prints of the bobcat that graced the cover of the November-December 1979 issue of *Florida Wildlife* are now available. Persons interested in obtaining prints should contact the artist. Write to:

Peggy Perkerson
2125 Jackson Bluff Rd.
B-201
Tallahassee, FL 32304.

BOOKS IN REVIEW

Guide to the National Wildlife Refuges by Laura and William Riley. A useful book for the touring nature lover, it details nearly 400 national wildlife refuges, giving the location, how to get there, what to expect in the way of wildlife, types of habitat, where to camp or stay, the most favorable seasons to visit. Also included are recommendations regarding clothing and equipment. The areas with which the reviewer is familiar checked out well in the text. Publisher is Anchor Press, Doubleday and Company, 245 Park Avenue, New York, N.Y. 10017.

■
Bowfishing by Ken Brown. That Ken Brown is an enthusiastic exponent of the bow as the proper gear for taking rough fish is affirmed by even the most casual perusal of this excellent book. Not a beginner's introduction to general archery, *Bowfishing* presents a comprehensive discussion of the equipment and techniques for a sport that has been followed only to a rather limited extent here in Florida. Three of the main objects of the bowfisher's attention—gar, mudfish and carp—are available in considerable numbers here. The exuberant guidance offered could well open up new horizons of outdoor sport during the summer months when other hunting has been mothballed. Well illustrated with numerous photos and drawings, this must be close to everything you ever wanted to know about bowfishing, from selecting the proper gear to cooking the catch. For further information, contact Ken Brown Publications, Box 637, Hugo, Oklahoma 74743.

NATIONAL HUNTING & FISHING DAY®

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■
Viking and Cherokee by Arthur G. Peterson. An autobiography of a Florida retiree. The story starts in a log cabin in horse-and-buggy days Minnesota and follows the author's trail to an active retirement in DeBary, south of DeLand. "Seventy-five years of activity in an age of rapid transition affords an opportunity for reflection and perspective," the author says, and goes on to prove it. A specialist in agricultural economics, he was familiar with the Washington scene during a particularly historic era. He also traveled far afield in foreign agricultural studies.

In spots, the narrative bogs down in what an outsider might consider an excess of family history, but it is well-sprinkled with interesting observations and experiences. The reviewer comments, "Reading the book is like talking with an oldtimer." Available from Arthur Peterson, P.O. Box 252, DeBary, Fla., 32713.

■
The Complete Log House Book by Dale Mann and Richard Skinulis presents the four basic methods of log construction. Discussed at considerable length; design and planning. hewn log house construction and reconstruction and building with round logs.

Well illustrated with four-color photographs, drawings and black and white photos, this is an excellent presentation of the subject. Publisher is McGraw-Hill

Book Company, 1221 Avenue of the Americas, New York, N.Y. 10020. 8½ x 10 ¾" paperback, 176 pages.

■
The Windward Road by Archie Carr. A reissue of Dr. Carr's "Search for the Sea Turtle" book first published nearly a quarter century ago. This reviewer's opinion remains the same as it was at first reading; it is at once a highly entertaining and informative narrative of low-key adventure in the Caribbean. A preface updates the current situation of the turtles. 266 pages, paperback. University Presses of Florida, 15 NW 15th Street, Gainesville, Florida 32603.

Phosphorus Is Aid To Antler Growth

Lack of phosphorus in the diet may be one of the major reasons for the small antlers on yearling bucks, according to researchers at Pennsylvania State University.

Experiments carried out at the Deer Research Facility at University Park showed that yearlings whose feed was supplemented with phosphorus developed larger antlers than bucks whose diet would just maintain normal body functions.

If nutrients are in short supply for yearlings, they are used for skeleton growth. In mature bucks, the contrary is true; for them, antler growth takes precedence over skeletal growth, and in fact the skeleton may even be "robbed" of minerals needed to grow antlers.

Researchers believe the lack of phosphorus in deer browse is a factor underlying the hunter's perennial complaint about small antlers.

CHIRPS, CROAKS & BELLOWS!

'Tis the season of the creepy crawler!

This is the time of year south Florida residents can expect to have catfish underfoot, toads croaking and frogs creating a crescendo of sound rivaled only by a punk rock band in full electronics.

And there's not a whole lot the Game and Fresh Water Fish Commission can do about it.

"I'll get a dozen phone calls a day," said Commission biologist Frank Morello, "complaining about the frogs croaking all night long and asking us to catch them because they're keeping folks awake."

Obviously the Commission can't do much besides give non-nature lovers some sound advice.

"Buy ear plugs," said Morello.

The problem comes each year as the toad and frog breeding season erupts in full cry. Each of the peeps, chirps, croaks and bellows belong to a different species and what's worse is that about the time one species' romantic inclinations wane, another's begin.

"It'll last all summer and into the fall," Morello said sadly.

Most of the complaint calls seem to originate in and around condominium complexes, especially when the condos are located near freshwater ponds and canals.

In one complex, several buildings are situated around a grassy pond and the noises in the night echo from one wall of concrete to the other.

Inhabited by recently ar-

rived urbanized residents more used to the sounds of freight trains than frogs, the condo dwellers suffer from noises that are irritating in the extreme. Old-timers don't pay them much attention unless they hear the ones that identify a patch of leopard or pig frogs.

If that's the case, you can bet a gigging expedition is quickly mounted and the results are a mess of sweet-tasting frog legs for dinner.

Only one of the many species of toads and frogs should be of concern. *Bufo marinus* or the giant toad, is an exotic import from the tropics now common in many suburban areas. His skin secretes a poison highly toxic to dogs and cats that may choose to end his jack-hammer croaks by biting him.

All the others are just noisy.

Second only to the amphibian complaints, Morello expects hot phone lines reporting catfish wiggling across the yard at dawn.

"With our hot summer days and sometimes rainy nights, an oxygen deficiency often develops in canals and ponds," the biologist said. "When this happens in a waterway inhabited by walking catfish, the fish just climb out and go looking for a more hospitable environment."

It'll all die down when the fall weather arrives. And while Morello can't understand why some residents prefer the rumble of a freight train to the sweet sound of nature, it's a sure bet he's waiting for the fall as anxiously as they are. —Biff Lampton



FLORIDA WILDLIFE

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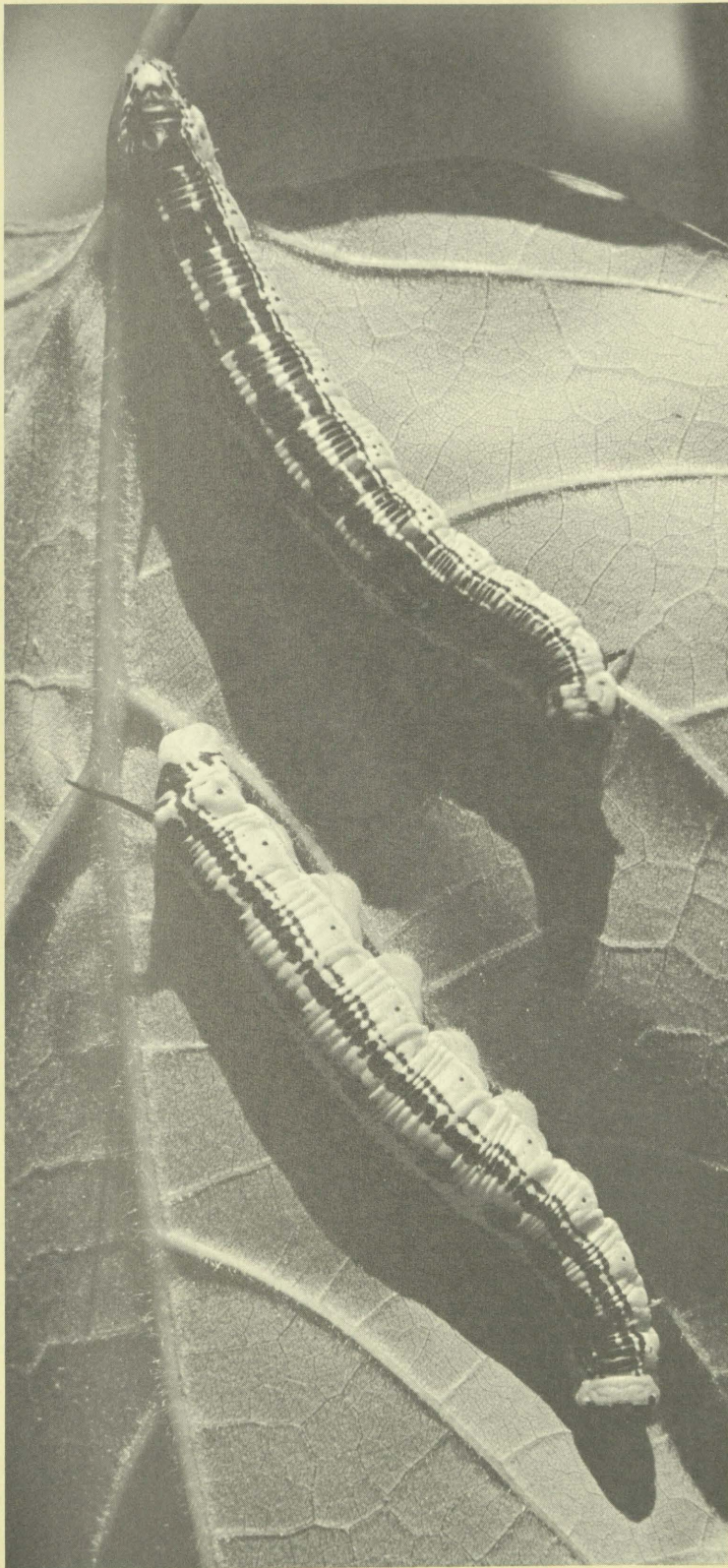
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—Illustrations by Wallace Hughes

The CATALPA WORM

The southern catalpa tree, *Catalpa bignoniodes*, is a favorite with many catfish and bream fishermen, and for good reason. This small- to medium-sized tree with the large heart-shaped leaves is the nursery for the caterpillar of the catalpa sphinx moth. Better known to most fishermen as the "catawba worm," the inch-and-a-half long, smooth-skinned creature is prime fish bait.

You may be able to buy catawba worms from your favorite bait dealer or you can grow your own.

The first step is to provide a catalpa tree, or several of them. Sometimes they're available from native plant nurseries, or you may be able to dig seedlings from around an old established tree.

Chances are the sphinx moth will find the tree without any problem and nature will take care of the rest. Or you can seed the tree with catawba worms from the bait shop. If you do, leave the worms alone for the first season and from then on you'll have a regular crop each season.

In the normal progression of events, the moth lays her eggs on the leaves and stems of the catalpa tree. When they hatch out, the caterpillars feed voraciously on the foliage, stripping the tree bare if left to their own devices. Those that survive the birds and bait gatherers descend the tree and burrow into the ground, form a cocoon, and remain in that state for a period of time. The metamorphosed (transformed) pupa then emerges as an adult sphinx moth and the cycle begins again.

Don't be concerned about the tree—it can stand to have its leaves stripped two or three times in a season. It will leaf out rapidly again after each stripping and continue to thrive.

—Morrie Naggiar

